The Kentucky Nutrition & Physical Activity State Action Plan 2005

Kentucky Department for Public Health
Division of Adult and Child Health Improvement

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Acknowledgements

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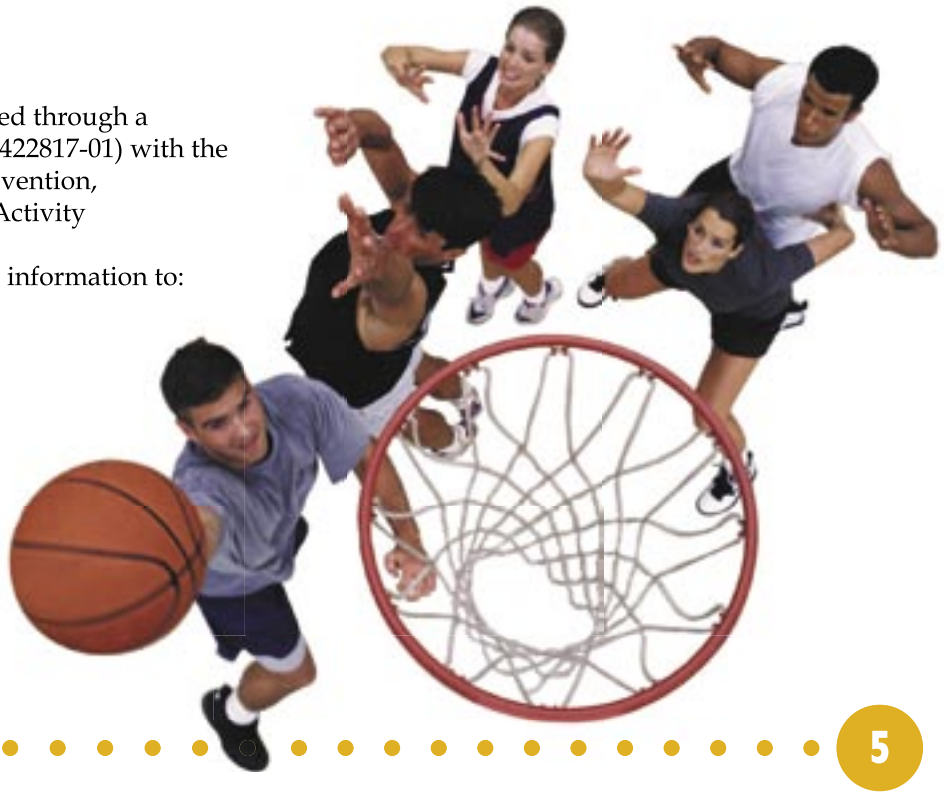


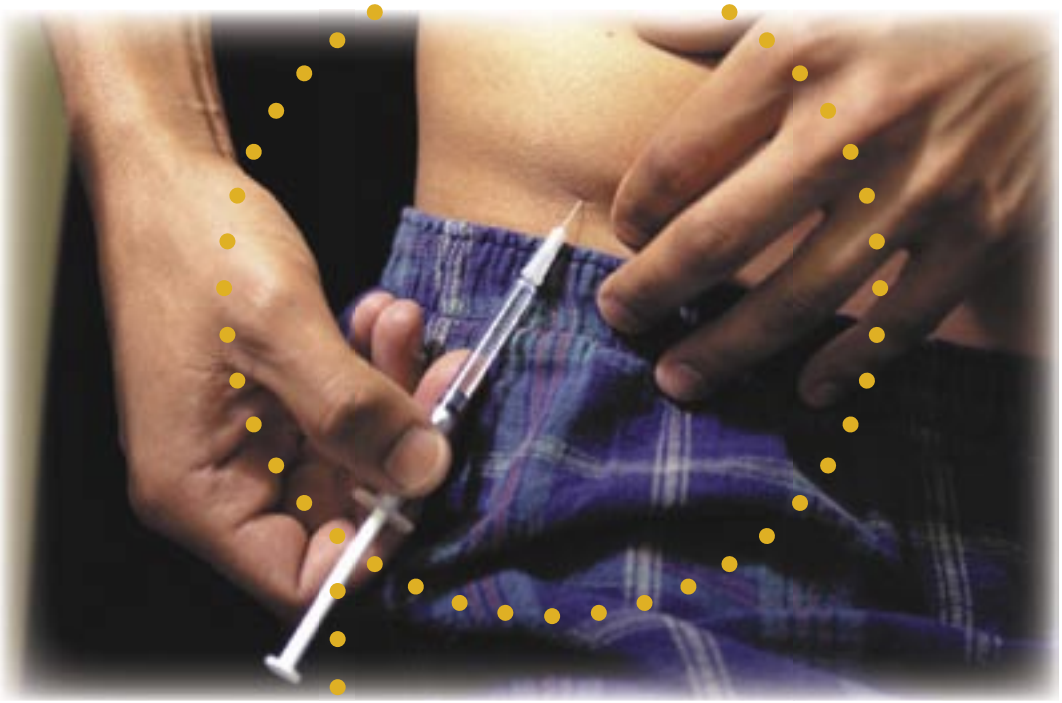
Overview

The Kentucky Department for Public Health (KDPH) is pleased to release this action plan to address the interrelated problems of poor nutritional choices, lack of adequate physical activity and the subsequent increase in the number of people who are overweight or obese, and the rise of chronic diseases such as Diabetes and Cardiovascular disease that arise from these problems. Work to prepare this document was supported by a grant from the Centers for Disease Control and Prevention (CDC) under a grant for "Nutrition and Physical Activity Programs to Prevent Obesity and Other Chronic Diseases."

This document includes Kentucky specific data, which will provide a basic understanding of the severity of the problem facing Kentucky, describes structural changes in society that have contributed to the problem, describes the CDC framework for addressing the problem and lists the goals, objectives and strategies Kentucky has set to address these issues. The goals, objectives and strategies cover a 10 year timeframe including the lead agency or organization charged with carrying out each strategy and describes the source of data for surveillance and evaluation. These goals, objectives and strategies were developed after extensive public input into the problem. Nine regional forums were held across Kentucky during the month of August 2004 attracting the participation of 1,300 public and private partners.

Criteria for development of the strategies included 3 factors – 1) high prevalence rates, 2) a clearly modifiable behavior (broadly constructed to include policies) and 3) that strategies be balanced across a variety of social-ecological areas and across intervention areas (from nutrition to physical activity, and from healthcare to schools).

The area and target population that has gained the most attention in Kentucky are schools and youth. This target group has been particularly in the public eye for the past 3 to 5 years and was the main topics of discussion at the 9 community forums.



Healthcare providers are another major target group for Kentucky. There was strong support for improving the curriculums offered to health care professionals ranging from medical schools to other allied health professions. Development of CME and CEU offerings targeting nutrition (including breastfeeding) and physical activity assessment, counseling and referrals was identified as a continuing need after health professionals exit their educational programs and for those already in practice.

In targeting worksites, the primary strategies will be related to the development of worksite wellness programs or activities, especially those focusing on nutrition (including breastfeeding) and physical activity.

Within communities, Kentucky will implement strategies in a number of areas, each of which is related to strategies recommended by CDC. These include community education efforts related to breastfeeding and education in support of parental involvement and role modeling regarding nutrition, physical activity and TV screen time among youth.

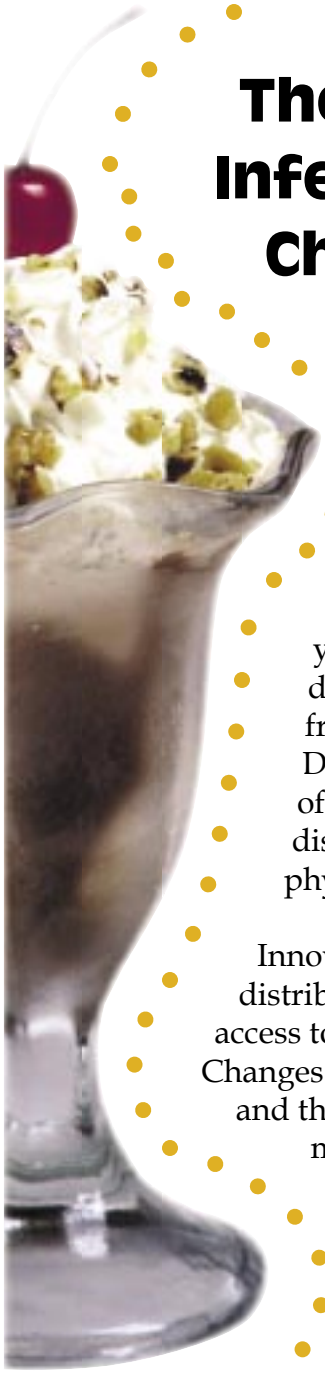
Another significant community target group is our faith organizations. Within faith organizations, Kentucky will develop resources and provide education to encourage changes similar to those expected of schools. For example,

faith organizations can set health standards for foods provided to both adult and youth groups, incorporate physical activity into both adult and youth educational programs and develop opportunities for increased physical activity such as walking clubs or sports activities.

Community sites targeted for physical activity interventions include parks and recreation departments where we will support an increased variety of offerings after school and during hours when families can participate. Kentucky will also address the "built environment" and polices around community development. These strategies will range from supporting requirements for sidewalks and green space in newly developed areas to improvement of the pedestrian and biking environment.

With regard to nutrition supports at the community level, Kentucky will primarily target the expansion of the farmers market along with working with restaurant owners to include healthier selections and portions sizes on menus.

Chapter 1: Understanding the Challenge



Major Causes of Death: The Transition from Infectious Diseases to Chronic Diseases

Between the late 19th century and early 20th century an important and dramatic change occurred in the causes of death in the United States. Changes in public health practices (i.e. sanitation and safe water sources) combined with broad changes in work conditions and economic prosperity to produce a dramatic change in life expectancy, which rose from 45 years to 75 years of age. Mortality rates declined dramatically and the burden of disease shifted from infectious diseases to chronic diseases such as Diabetes, Heart Disease and Cancer as leading causes of illness and death. Underlying each of these chronic diseases are risk factors including obesity, lack of physical activity and poor nutritional habits.

Innovations in food production, processing and distribution have resulted in the entire population having access to more meat, dairy products and high fat foods. Changes in the transportation system, occupational structure and the transition from agricultural jobs to sedentary manufacturing and service sector employment are directly related to decreased physical activity. Overall improvements in the standard of living

resulted in easier access to tobacco and high fat foods for the poor and working class, once only accessible to those in the middle to upper economic levels.

Just as public health advocates faced many societal level barriers in combating infectious diseases, new societal level barriers have developed, blocking the way to progress in battling cardiovascular and other chronic diseases. For many years now, we have focused on changing the behavior of individuals (changing lifestyles) to combat chronic disease. Unfortunately, we are beginning to see that such tactics are only successful in a small number of highly educated, fully employed, highly motivated individuals.

For most of the population, and especially for those at highest risk, namely rural residents, the working class and poor, focusing on individual behavioral change is ineffective. It is now clear that successful efforts to prevent chronic diseases related to lack of physical activity and poor nutritional choices must address a broad range of structural, social and economic barriers. Collaborative action is necessary in schools, workplaces, and communities to encourage changes to programs, policies and practices that facilitate healthy living.

Effective Public Health Approaches to Chronic Disease Prevention and Management

Key principles

The Centers for Chronic Disease Prevention and Health Promotion at the Centers for Disease Control and Prevention has published a comprehensive discussion of "Promising Practices in Chronic Disease Prevention and Control". In it, Dr. James Marks list four key principles that state public health practitioners should guide chronic disease prevention planning:

1) Primacy for prevention:

call attention to prevention opportunities that lie outside of the doctor's office and are influenced heavily by individual behaviors which are in turn fostered or hindered by public and institutional policies, and by the environment we live in.

2) Dependence on Scientific Evidence:

select and implement interventions that have been proven to be effective and commit to evaluate interventions to demonstrate effectiveness.

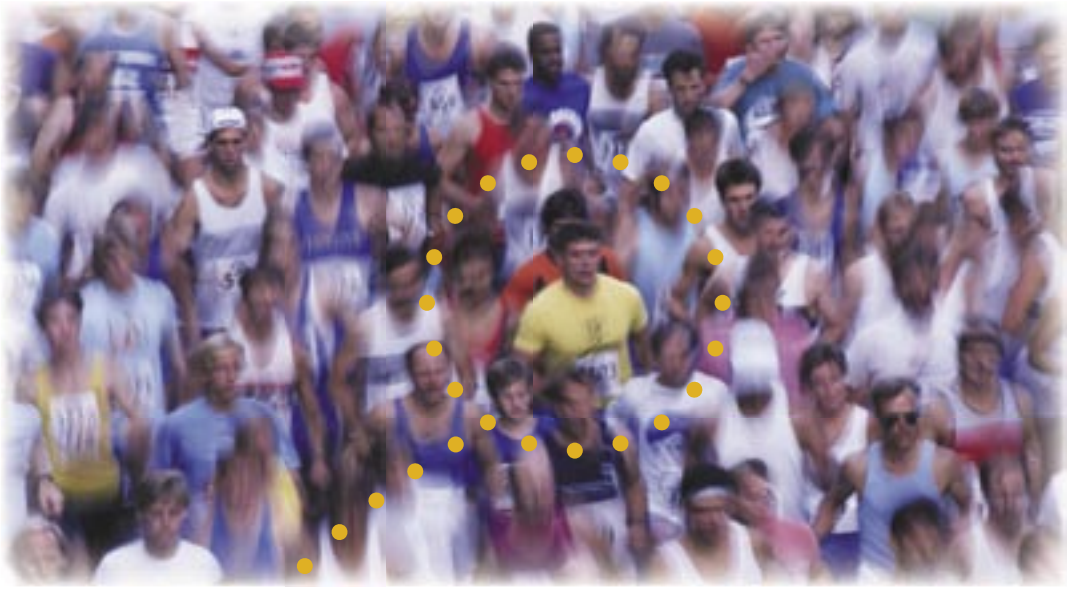
3) Recognition of Health Disparities:

while public health initiatives have a responsibility for everyone, there is a special responsibility to those who have the greatest need, those who bear an disproportionately large burden of disease or who are likely to have least access to public health initiatives

4) Interdependence of Chronic Disease and Their Risk Factors:

Chronic diseases such as Obesity, Diabetes and Cardiovascular disease are highly interrelated, along with the risk factors of poor nutritional choices and lack of physical activity. This interdependence requires that successful prevention programs must cross a variety of sectors such as schools, worksites and faith organizations, while targeting policy and environmental change as well as individual behavior change at as many levels as possible.

In summary – CDC guides us toward planning interventions which are predominately evidence based prevention strategies which ensure that group disparities are not ignored and that address the interdependent nature of chronic disease and related risk factors.



Interdependent levels of influence: The Social-Ecological Model

Another important consideration in developing interventions to prevent chronic disease is recognition of the interrelationships between people and their social and community network. This approach is often termed "The Socioecological Model". Essentially, this approach points out that there is a dynamic and unavoidable interaction between individuals and their environment. While lifestyle choices are ultimately individual choices, these personal decisions are made in the midst of a complex mix of social and community relationships and environments that can actively support or obstruct personal change. Indeed, research has shown that behavior change is more likely to happen and be maintained when a person's environment is changed in a manner that supports the change.

One way to think about this approach is that we want to "saturate" all layers of the social structure in which people live and work in order to maximize the impact of interventions on changing individual behavior. The different levels of the socio-ecological model are shown below.

Individual:

Motivating change in individual behavior by increasing knowledge and influencing attitudes and beliefs.

Interpersonal and Group:

Promoting family or peer group interactions that provide social support or improve understanding.

Institutions and Organizations:

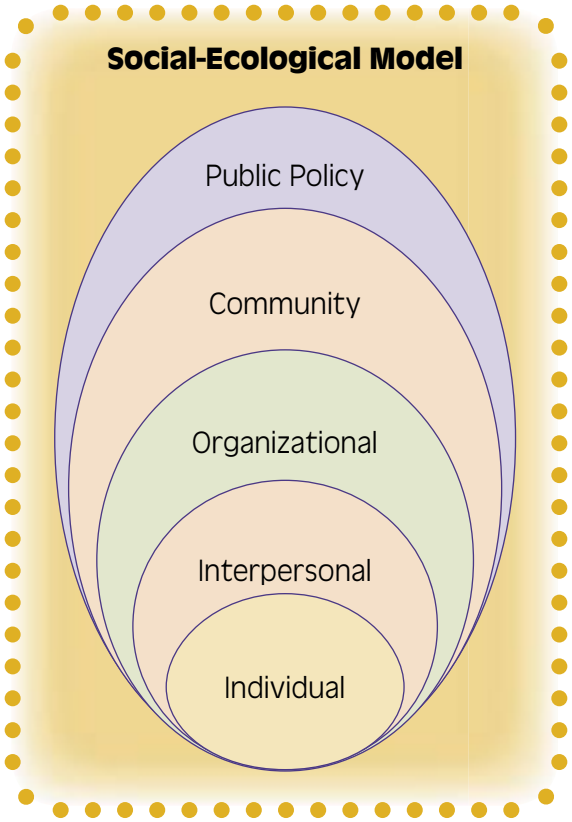
Includes **schools, faith organizations, businesses** or other groups changing policies or practices related to nutrition and physical activity. Examples include walking clubs, vending machine contents, foods provided for youth activities or flextime for physical activity.

Community:

Coordinating the efforts across community groups (organizations, citizens and leaders) to develop and enforce local policy and environmental changes.

Societal or Public Policy:

Developing state level polices and laws that can increase beneficial health behaviors. Developing broad based media campaigns linked to other events to encourage change.



Modifiable Risk Factors to be Targeted

To make the best use of scarce resources for prevention efforts, CDC strongly recommends that state prevention strategies focus on the following four highly prevalent risk factors which are known to be amenable to individual behavior change and for which evidence shows that a change in that behavior has a positive health impact.

Promote Breastfeeding

Several studies show that any breastfeeding and breastfeeding for longer durations protect against overweight in childhood.

Increase Fruit and Vegetable Consumption

Dietary Guidelines recommending Americans consume 5-9 servings of vegetables and fruit each day are based on substantial scientific evidence.

Promote Increases in Physical Activity

Regular physical activity substantially reduces the risk of cardiovascular disease, colon cancer, diabetes, obesity and high blood pressure. Regular physical activity also helps treat a variety of common illness, including arthritis, blood lipid disorders, diabetes, obesity, and cardiovascular disease.

Reduce Television Time in Children

National cross-sectional surveys have shown a positive association between the number of hours children watch television and the prevalence of overweight.

In addition to the individual behavior changes targeted above, the following two factors are necessary components for producing and supporting those changes.

Recognize Dietary Determinants of Energy Imbalance

Weight gain occurs when energy intake exceeds energy expenditure. Issues include: dietary fat, dietary fiber, sweetened beverages, fast food and restaurant use, dietary patterns, and portion sizes.

Increase Parental Involvement

Parents have been shown to influence their children's dietary behaviors and physical activity behaviors through direct communication, role modeling, and by fostering self-efficacy and overall self-esteem. Recommended interventions include: providing classes and support groups for parents to explore ways to help their children, with an emphasis on "problem solving" rather than "information giving".

Our best chance of success then, relies on a plan to implement **evidence-based strategies, targeting highly prevalent, modifiable risk factors** within **settings that span the full range of the social system** from local ordinances and policies impacting neighborhood design, to coordinated school health activities in local schools, health education and promotion activities in our faith communities to the counseling patients receive from health care providers and giving parents skills to help them help their children and finally programs targeting individuals who need to change their lifestyles.

Obesity, Physical Activity, Nutrition And Related Chronic Diseases in Kentucky

The report entitled **The Kentucky Obesity Epidemic – 2004**, provides a comprehensive review and discussion of the burden or obesity in Kentucky. In this report, we draw from that document what we consider the key pieces of information needed to appreciate the extent of the problems facing the state in developing a plan to stop the rising trends of obesity and other chronic diseases in Kentucky. The full report on the Kentucky obesity epidemic can be found at http://www.fitky.org.

Overweight and Obesity

Body Mass Index or BMI is the commonly accepted measure of overweight and obesity for adults as well as children. BMI takes into account a person's weight relative to their height. In children, age and sex are also included in how BMI is calculated. BMI is divided into categories because research has shown that as BMI increases, so do risks to health. Risk of death also increases with BMI. A person is said to be overweight when their BMI is between 25 and 29.9. Obesity is defined as a BMI of 30 or higher. Obesity is further classified as Class 1, Class 2 or Class 3 depending on the specific BMI. Class 1 obesity is a BMI of 30 to 34.9. Class 2 obesity is a BMI between 35 and 39.9 while Class 3 obesity is a BMI of 40 or higher.

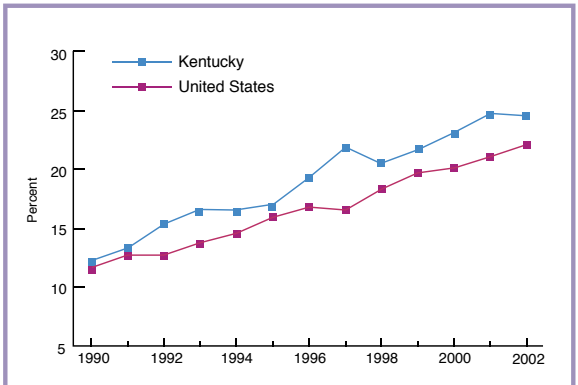
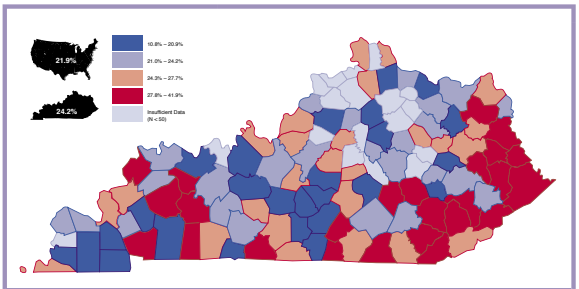
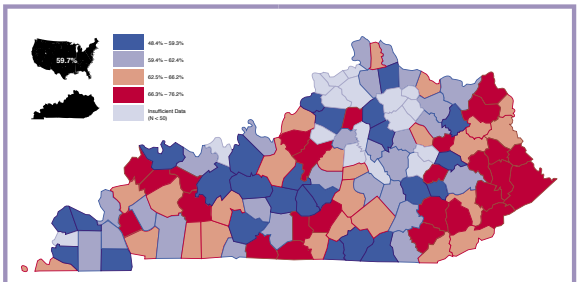


Figure 1: Adult obesity prevalence by year in Kentucky and the U.S., 1990-2002. (Source: BRFSS).

Since 1990, obesity among adults in the U.S. has almost doubled and continues to grow. Obesity in Kentucky, however, has more than doubled during this time and has stayed steadily above the national level each year. Figure 1 compares obesity in the U.S. and Kentucky from 1990 to 2002. Today, about 22% of U.S. adults are obese. In Kentucky, 24% of adults – about 683,000 people – are obese. That is more than the population of Lexington and Louisville combined. An additional 38.5% of all Kentucky adults are overweight. Men, African Americans and those with lower educational obtainment are more likely to be overweight or obese than women or whites.



Map 1: Adult obesity prevalence (BMI of 30 or more) by Kentucky county. (Source: BRFSS, 2000–02)



Map 2: Adult overweight and obesity prevalence (BMI of 25 or more) by Kentucky county. (Source: BRFSS, 2000–02)

Geographically, the counties with the highest rates of Obesity and overweight among adults are concentrated primarily but not exclusively in the eastern region of the state. Map 1 shows adult obesity by county. The counties shown in red have a prevalence of obesity, ranging from 28% of the adult population up to 42%. Map 2 shows overweight and obesity combined by county. Again, the counties in red have the highest prevalence of overweight and obesity – up to a staggering 76%.

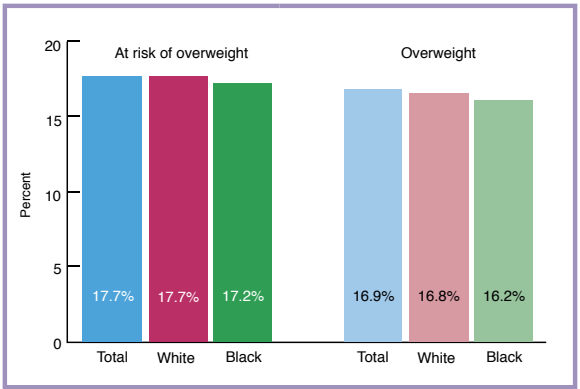


Figure 2: Children at risk of overweight and overweight in Kentucky overall and by race. (Source: PedNSS, 2002).

For children and youth, the term obesity is not used. Instead, children and youth are said to be "at risk of overweight" (comparable to overweight in adults) or "overweight" (comparable to obesity in adults). Different terms are used because children and youth are still growing and their weight/height ratio may change significantly as they grow in height. In addition to height, ideal weight for children also depends on their age and sex relative to other children of the same age and sex. To account for all of these factors, growth charts are used to determine how a child's BMI compares to other children or the same age and sex. Those who are heavier than 95% of all children of the same age, height and sex are classified as overweight. Those whose weight falls between 85% to 94% of children of the same age, height and sex are considered "at risk of overweight". Children whose weight lies between 5% and 84% of similar children are classified as normal weight, and those who weigh less than 5% of all other similar children are considered underweight.

Weight and height data are not available for all children in Kentucky. But data does exist for some important populations that help give us a picture of how Kentucky youth are faring in the obesity epidemic. One valid data source comes from children enrolled in the Kentucky WIC program. In 2002, 17% of 2 year olds, 18% of 3 year olds and 18% of 4 year olds fall into the "at risk of overweight" category. Looking at overweight children, 16% of 2 year olds, 17% of 3 year olds and 17% of 4 year olds fall into this category.

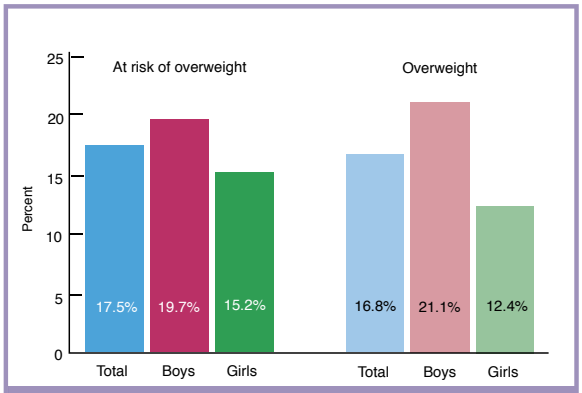


Figure 3: Middle school students in Kentucky at risk of overweight and overweight by sex. (Source: KY YTS, 2002).

Unfortunately, Kentucky does not have statewide data on elementary school age children, or on preschool aged children other than those enrolled in WIC. Two areas of the state have worked with schools to begin to capture this data. Fayette County collected data from all elementary schools and found that 12% of students were overweight and 14% were at risk of overweight.

For Middle School youth, we have self reported height and weight from a statewide survey conducted in 2002. Overall, almost 18% of middle school students are at risk for overweight and 17% are overweight. Considering the group at risk of overweight, 20% of boys and 15% of girls fall into this category. The gender difference is very dramatic in the Overweight category, with 21% of boys falling into this category compared to 12% of girls.

Figure 4 compares high school boys and girls in Kentucky and the U.S. Looking at the group at risk of overweight, we see that the percentage of Kentucky boys in this category does not differ appreciably from boys in the U.S. as a whole. For girls however the results are different, with 16% of Kentucky girls at risk of overweight compared to 12% of girls nationwide. In the overweight category the gender differences are reversed, with almost 20% of Kentucky boys being overweight compared to 14% of boys nationwide. The Kentucky-US gap is much smaller for girls, with 10% of Kentucky girls being overweight compared to 7% of girls nationally.

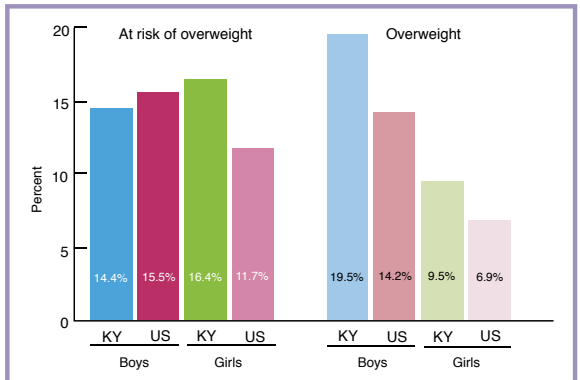


Figure 4: High school students at risk of overweight and overweight by sex in Kentucky and the U.S. (Source: YRBSS, 2001, 2003).

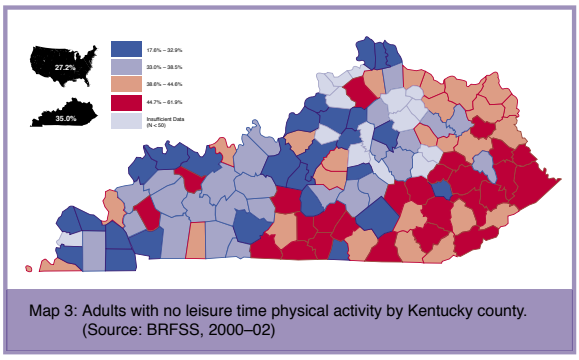
Physical Activity

Regular physical activity is an important component in maintaining a healthy weight and preventing the development of chronic conditions such as heart disease, stroke, diabetes, high blood pressure, gall bladder disease, osteoporosis and colon cancer. Physical activity also reduces arthritis pain, reduce symptoms of depression and reduce falls among older adults. To produce these health benefits, it is recommended that adults undertake either:

Thirty minutes of moderate physical activity at least 5 times a week. (A brisk 30 minute walk is considered moderate physical activity)

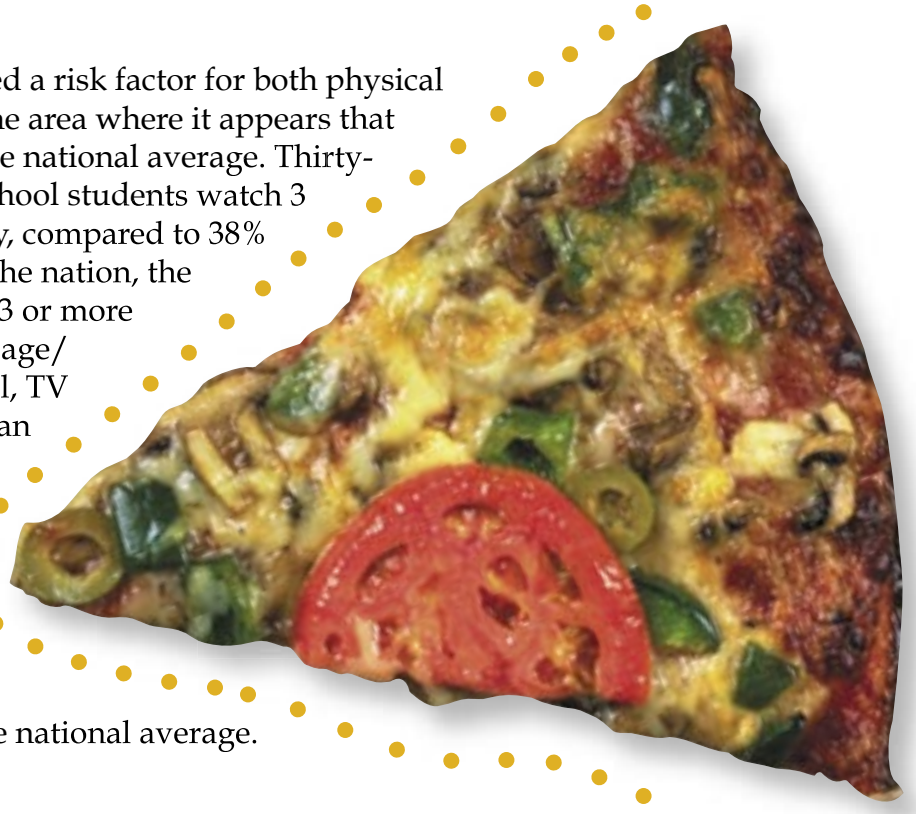
or

Twenty minutes of vigorous physical activity at least 3 times a week. (Jogging, swimming laps, or bicycling on uneven terrain are considered vigorous physical activity)



Map 3: Adults with no leisure time physical activity by Kentucky county. (Source: BRFSS, 2000–02)

Only 29% of adults in Kentucky get the recommended amount of physical activity, compared with 45% of adults in the U.S. When we look at the number of adults who have NO leisure type physical activity (no physical activity other than on the job), we see that 35% of Kentucky adults are physically inactive, compared to 27% of adults nationwide. Only Tennessee has higher rates of inactivity. While black Kentucky adults have levels of inactivity similar to black adults nationwide, for whites, males and females, Kentucky adults are significantly more inactive than adults nationwide. Physical inactivity is directly related to age, level of education and BMI. In Kentucky as in the nation overall, physical activity decreases with age, increases with level of education and decreases as BMI increases. Among youth, our only data comes from a statewide survey of high school students, the Kentucky Youth Risk Behavior Surveillance Survey. In Kentucky, about 8% of boys and 13% of girls are physically inactive. Only 35% of Kentucky high school students report being enrolled in a physical education (P.E.) class compared to over 51% nationwide. In Kentucky, about 44% of boys and 26% of girls are enrolled in a PE class, and PE enrollment decreases with age/grade level. While 43% of Kentucky 9th graders are enrolled in a daily PE class, enrollment in grades 10, 11 and 12 averages around 16%.



Watching Television is considered a risk factor for both physical inactivity and obesity. This is one area where it appears that Kentucky is doing better than the national average. Thirty-one percent of Kentucky high school students watch 3 or more hours of television a day, compared to 38% nationwide. In Kentucky, as in the nation, the percentage of youth who watch 3 or more hours of TV a day declines with age/grade level. At every grade level, TV viewing is lower in Kentucky than in the nation. This difference is most noticeable in the 9th grade where there is an 11 percentage point difference between Kentucky and the nation compared to 12th grade where Kentucky rates are only 3 percentage points lower than the national average.

Nutritional Choices

Nutritional choices may well be the area where people become most confused as to what "the experts" recommend or what is known to be best practice. This is due in large part to the myriad of fad diets that come into popularity, quite often authored by someone who claims expert status. It is beyond the scope of this document to either extensively define good nutrition from bad or to evaluate the effectiveness of various diets currently popular in the United States. But we can discuss the scientific evidence regarding the role of dietary fat and fruit and vegetable consumption in obesity.

The information in this section comes primarily from a document jointly written by researchers from the University of California-Berkley, Oklahoma University, and the University of New Mexico who make up "The Determinants of Energy Imbalance Workgroup of the Obesity Prevention Network". This is a CDC funded initiative, and KDPH believes that this document represents the most current scientifically valid information on how dietary choices impact weight gain or weight loss. This research will be referred to as the EIW (Energy Imbalance Workgroup) in this document. The terms in **boldface type** are key dietary components that are believed to be strongly related to the increase in obesity rates and weight gain.

The relationship between **dietary fat** and obesity is clear. Higher intakes of dietary fat is positively associated with higher caloric intake – in other words, diets that are high in fat are highly likely to also be very high calorie. It is important to note that in **controlled settings (the total amount of food available is limited)** it is clear that higher levels of dietary fat do not lead to weight gain independent of total calories consumed. Stated differently, if calories stay the same, a higher percentage of calories from fat will not lead to obesity. However – in a **free choice setting (the total amount of food available is NOT limited)**, higher fat diets strongly tend to lead to excess calorie intake.

One important reason for the impact of high fat diets on total calories consumed is that fat does not lead to a feeling of fullness **(satiety)** as compared to the effect of protein or carbohydrates. Because of this, when eating a higher fat diet people need to eat more before feeling full, leading to excess calorie consumption. Therefore, while high protein, low carbohydrate diets may result in weight loss, it is important to understand that weight loss from these diets come from consuming fewer calories, not from the fact that these diets are often relatively high fat. However, low fat diets have repeatedly been shown to be the most effective for prevention of overweight and for long terms weight maintenance.

Dietary fiber is another important factor in a healthy diet. Most studies examining weight loss show that consumption of both water-soluble and water insoluble fiber results in greater weight loss than do low fiber diets. The EIW states "a diet that provides adequate dietary fiber, at least the recommended 25 grams per day, is ideal for preventing obesity as well as other diet-related diseases and for maintaining body weight".

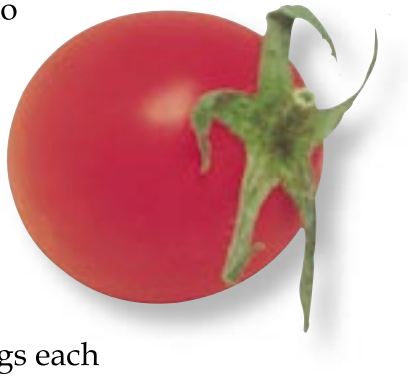
Energy density refers to the amount of energy (calories) available from food in comparison to the weight of the food. Simply stated, some foods provide a large number of calories from a relatively small portion size. Foods can be very high in energy density, yet lower in fat, thus contributing to the public confusion in decisions on healthy food options. Research has shown that low energy dense foods play an important role in weight loss, in part by promoting a feeling of fullness (satiety).

There is strong evidence that the increase in consumption of **sweetened beverages** parallels the overall increase in obesity. In the 1950's, it is estimated that per-capita consumption of sweetened soft drinks was approximately 10 gallons each year. By the 1990's sweetened soft drink consumption had increased to 200 gallons per-capita. Consumption of sugar-sweetened soft drinks is now the main source of added sugar in the American diet. Including sugar-sweetened soft drinks in the diet is often associated with a higher calorie overall. Research covering a 1 ½ year time period shows that the risk of childhood overweight increases substantially for every additional sugared drink a child consumes on a daily basis.

Fast food, restaurant use and **increased portion size** are all known to coincide with the increase in obesity rates. This is another area in which we see trends that mimic one another even while data on cause and effect are hard to pin down. The rise in obesity rates have been paralleled by increased fast food consumption, more frequent eating out in restaurants and an increase in portion sizes at both fast food and sit down restaurants. There is solid evidence that frequent eating out is related to a diet high in fat, calories and energy density all of which are known to be associated with weight gain and obesity.

Fruit and Vegetable Consumption

There is substantial scientific evidence that eating 5 to 9 servings of fruits and vegetables a day reduces the risk for certain cancers as well as other chronic health problems such as cardiovascular disease, high blood pressure, overweight and obesity. The "National 5 a Day for Better Health Program" began in 1991 to encourage people to include more fruits and vegetables in their diets.



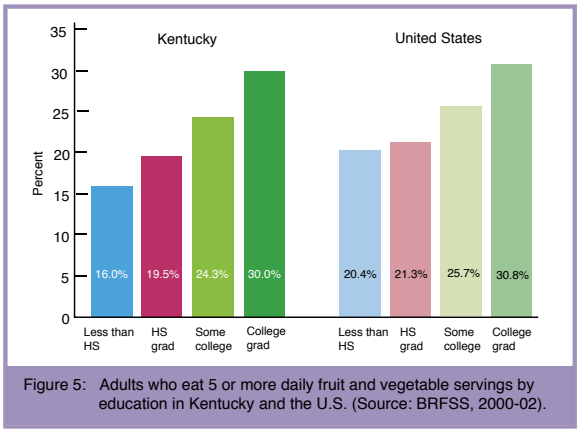


Figure 5: Adults who eat 5 or more daily fruit and vegetable servings by education in Kentucky and the U.S. (Source: BRFSS, 2000-02).

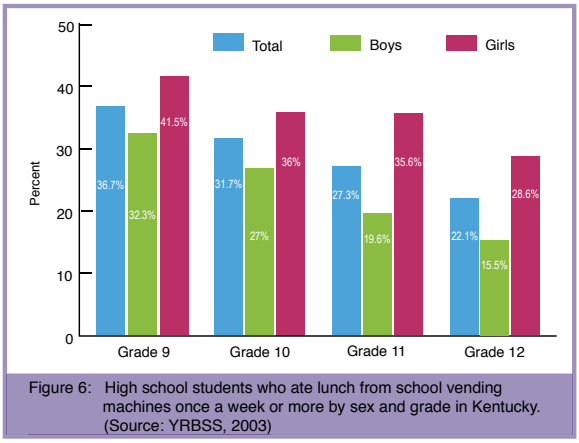


Figure 6: High school students who ate lunch from school vending machines once a week or more by sex and grade in Kentucky. (Source: YRBSS, 2003)

Only 22% of Kentuckians meet the 5-a-day recommendation, compared to 25% nationwide. Forty-two percent of Kentuckians report eating 3 or 4 servings each day and 33% eat only one or two servings of fruits and vegetables each day. Following the national trend, more women (25%) than men (19%) and more whites (22%) than blacks (16%) meet the 5 a day recommendation. The greatest variation in fruit and vegetable consumption is seen in level of education. Figure 5 clearly shows that eating the recommended amount of fruits and vegetables increases steadily by level of education. Those with less than high school education are the least likely to eat 5-a-day while those who are college graduates are more likely to eat 5-a-day.

Among youth and children, our only data on fruit and vegetable consumption comes from the Youth Behavioral Risk Factor Survey which is completed by high school students. Kentucky youth report far lower levels of fruits and vegetable consumption than do high school students nationwide. Only 13% of Kentucky high school students eat "5-a-day" as compared to 22% of students nationwide.

In recent years, how vending machines in schools impact youth diets has been a significant issue both in Kentucky and nationwide. In order to better understand the situation in Kentucky, questions were added to the 2003 YRBSS to determine vending machine use.

Among Kentucky high school students, over 30% eat lunch bought from school vending machines once a week or more. Vending machine use is

highest in 9th grade and decreases steadily to 12th grade. At each grade level, girls eat from vending machines at a much higher rate than do boys.

Soda vending machines have higher levels of use across all age groups than do the food vending machines. On a typical day, almost half of high school students (47%) buy one or more sugared soft drinks from school vending machines. Vending machine use is highest among 9th graders and declines with grade-level. Over half of 9th graders buy at least one sugared soft drink a day from school vending machines compared to 48% of 10th graders and 43% of 11th and 12th graders.

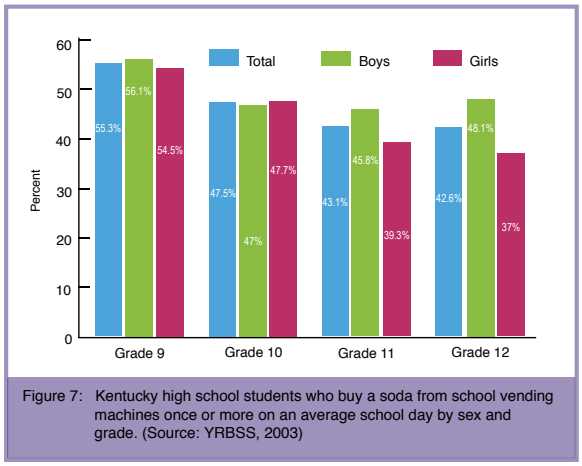


Figure 7: Kentucky high school students who buy a soda from school vending machines once or more on an average school day by sex and grade. (Source: YRBSS, 2003)

Breastfeeding

Breastfeeding has many benefits for both mothers and babies, for mothers, breastfeeding in proven to reduce the risk of ovarian and breast cancer. In addition, there is a growing body of evidence showing that both initial and sustained breastfeeding reduces the prevalence of children being overweight. Breastfeeding is also a protective factor against infectious diseases and is related to lower rates of childhood cancer, asthma and both Type 1 and Type 2 diabetes.

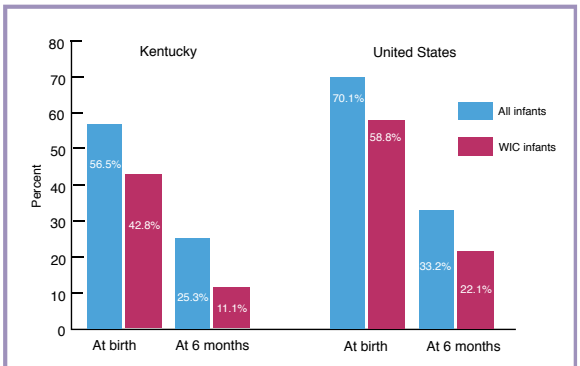
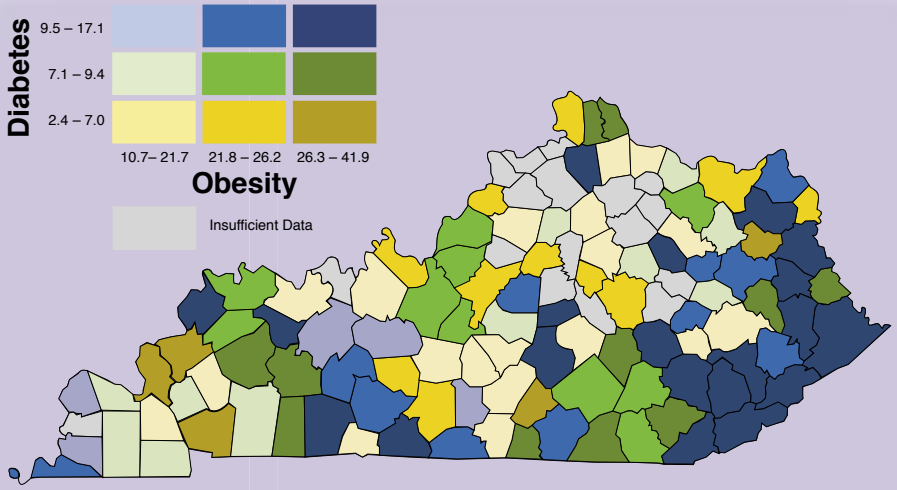


Figure 8: Breastfeeding rates at birth and at six months in Kentucky and the U.S. (Source: Ross Mothers Survey, 2002).

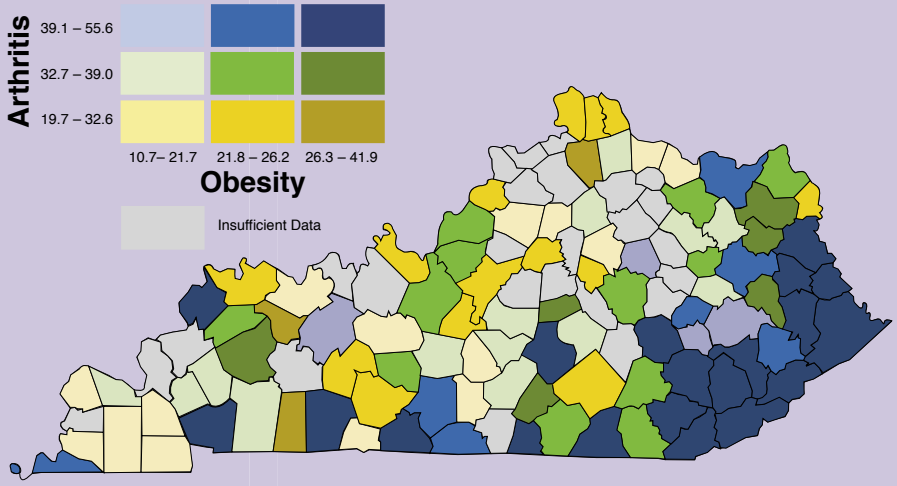
In Kentucky, data on breastfeeding comes from 2 sources. The Ross Mothers Survey is a survey of all new mothers in the state. The second data source is the WIC program which serves low income mothers through the local health departments across the state. Figure 8 shows information from both of these data sources for both Kentucky and for the nation as a whole. In Kentucky, just over half of all infants are breastfed at birth, compared with 70% of infants nationwide. At 6 months, only 25% of Kentucky infants are still being breastfed compared to 33% of babies in the nation. The rates of breastfeeding at birth and at 6 months are much lower for the WIC population. While 43% of WIC infants are breastfed at birth only 11% are still breastfed at 6 months. This compares poorly with WIC babies nationwide where 59% are breastfed at birth, declining to 22% at 6 months.

Diseases and Conditions Related to Obesity

Map D-1 shows how diabetes and obesity overlap by county. **Map D-2** shows how arthritis and obesity overlap by county. Generally, in counties where obesity is most common, so to is the percentage of adults with diabetes and arthritis. These counties tend to be in eastern and south eastern Kentucky.



Map D-1. Adult diabetes and obesity rates by Kentucky county. (Source: BRFSS, 2000–2002)



Map D-1. Adult arthritis and obesity rates by Kentucky county. (Source: BRFSS, 2000–2002)

Obesity and quality of life

Overweight and obese people not only suffer from diseases and conditions because of excess weight. They also have more social pressure, more discrimination, and poorer body image — all of which can lead to a lower quality of life. Indeed, overweight and obese adults usually rate their health lower than adults of normal weight. **Figure 9** shows the percentage of adults who rate their health as "fair" or "poor" by BMI category. In Kentucky, the percentage ranges from 20% for adults with normal weight to almost half of adults at the highest level of obesity. A similar pattern is seen among adults in the U.S.

Figure 10 shows the average number of *physically* unhealthy days reported by adults in the past month by BMI category. The number of physically unhealthy days a month in Kentucky ranges from almost four days for adults of normal weight to a high of almost nine days for adults with the highest level of obesity.

Figure 11 shows the average number of *mentally* unhealthy days reported by adults in the past month. The number of mentally unhealthy days a month in Kentucky ranges from more than four days for adults of normal weight to a high of more than nine days for adults with the highest level of obesity.

In Kentucky, adults with obesity-class III have over 2.5 weeks (18 days) each month of physically or mentally unhealthy days, compared with about one week (8 days) for adults with normal weight.

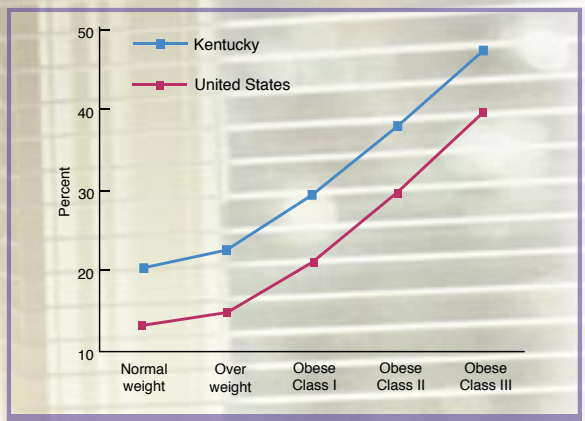


Figure 9: Adults with a fair / poor health status by BMI category, U.S. and Kentucky. (Source: BRFSS, 2000-2002)

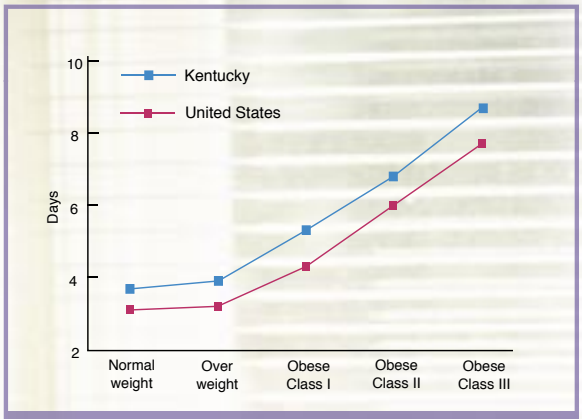


Figure 10: Average number of physically unhealthy days in the past month by BMI category, U.S. and Kentucky adults. (Source: BRFSS, 2000-2002)

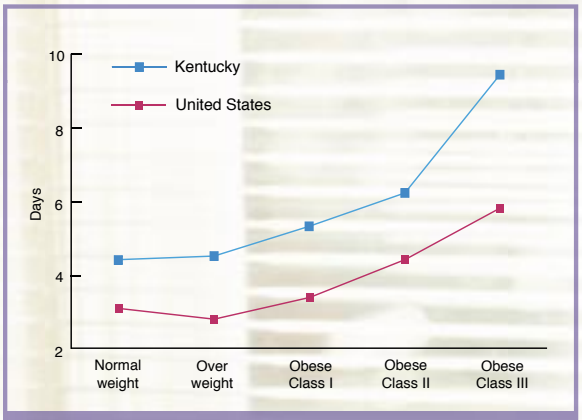


Figure 11: Average number of mentally unhealthy days in the past month by BMI category, U.S. and Kentucky adults. (Source: BRFSS, 2000-2002)

Chapter 2: Development of the State Plan

Obesity Prevention and Control Partnerships within the KDPH

As we have already seen, it is impossible to discuss the obesity epidemic without discussing related chronic diseases such as diabetes, cardiovascular disease and arthritis. There are a variety of programs within the Division of Adult and Child Health Improvement which are involved directly or indirectly in addressing the obesity epidemic. Strong collaborative norms exist between these inter-related programs, maximizing their impact. Examples of these collaborative norms include:

- Routine consultation on development of grant action plans to minimize duplication or overlap and to maximize program reach.
- Joint planning of program evaluation.
- Consultation on identification of evidence based interventions.
- Assessment of community capacity to implement interventions.
- Joint planning and delivery of training.

In addition to strong internal collaboration, these programs maintain active partnerships with other state agencies, particularly the Kentucky Department of Education, Kentucky Department of Agriculture, the state Office on Aging and private partners such as the American Heart Association. KDPH has built capacity both internally and within Kentucky's 120 local health departments to address the epidemic of obesity by focusing on nutrition and physical activity across a range of venues including communities, worksites, faith organizations, schools and individuals.

The following programs within the Division of Adult and Child Health Improvement make significant contributions to Kentucky's efforts in obesity prevention.

Nutrition and Physical Activity Initiative

This program boasts $3 million dollars in funds from the Public Health and Health Services (PHHS) Block Grant and the Maternal and Child Health (MCH) Block Grant. Beginning with state fiscal year 2004, $1.5 million of PHHS Block Grant funding has been used to specifically address physical activity objectives and $1.5 million of MCH Block Grant funding has specifically addressed community and clinical nutrition objectives. All local health departments are required to address both physical activity and nutrition in their plans and budgets. The $3 million has been distributed to local health departments based on past performance and population. Local health departments are able to supplement the designated $3 million dollars with other state and local funds. Local health departments are required to choose from evidence-based initiatives when determining how to spend these funds. The physical activity initiatives are based on the Guide to Community Preventive Services Promoting Physical Activity. The nutrition initiatives are based upon selected evidence based initiatives.

Special Supplemental Nutrition Program for Women, Infants and Children (WIC) Program

The WIC Program focuses on providing nutrition education and nutritious foods to low-income women (pregnant, postpartum and breastfeeding), infants and children. Participants in the WIC Program have a nutrition risk that can be improved by the provision of nutritious foods. Participants receive nutrition education every 3 months along with food instruments for milk and/or cheese, iron-fortified cereal, 100% juice, eggs, peanut butter or beans. Infants receive iron-fortified formula (if not being breastfed), iron-fortified cereal and infant juice. Requirements of nutrition education for all participants include discussion of a basic nutritious

diet and the importance of physical activity. Kentucky is one of the states participating in the FIT WIC Project and has developed an award winning video entitled: Beyond Nutrition Counseling: Reframing the Battle Against Obesity, a "Fit WIC Activity Kit" and an activity pyramid for children and adults. Women who are breastfeeding their infants may receive a breast pump and additional food to support the extra calories and nutrition needed for lactation.

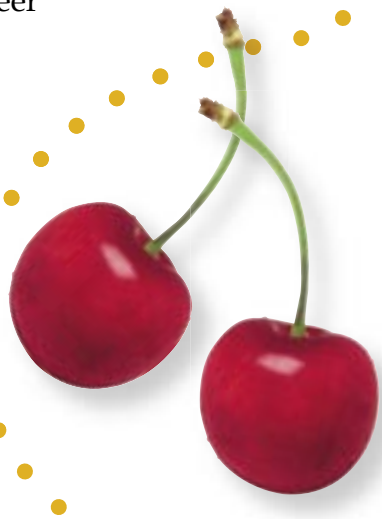
The WIC Program promotes and endorses breastfeeding as the best food for infants. WIC has a breastfeeding coordinator in each local agency. Additionally, ten Breastfeeding Grantees are spread throughout the state that begin and assist in sustaining breastfeeding coalitions and assist in ensuring continuing education on breastfeeding. The WIC Program, the State Nutrition and Physical Activity Program and the University of Kentucky collaborated this past year to present the 2nd annual statewide training on breastfeeding for health professionals. The breastfeeding state plan supports the State Nutrition and Physical Activity Program.

Loving Support Peer Counseling Program

Loving Support is a program that promotes sustained breastfeeding. This Program will begin as a pilot program tested in four areas of the state and expand statewide as additional funds are received. In the seven states that have reached the Healthy People 2010 goal for breastfeeding initiation and duration, the infrastructure support from peer counselors has been one of the major reasons for success.

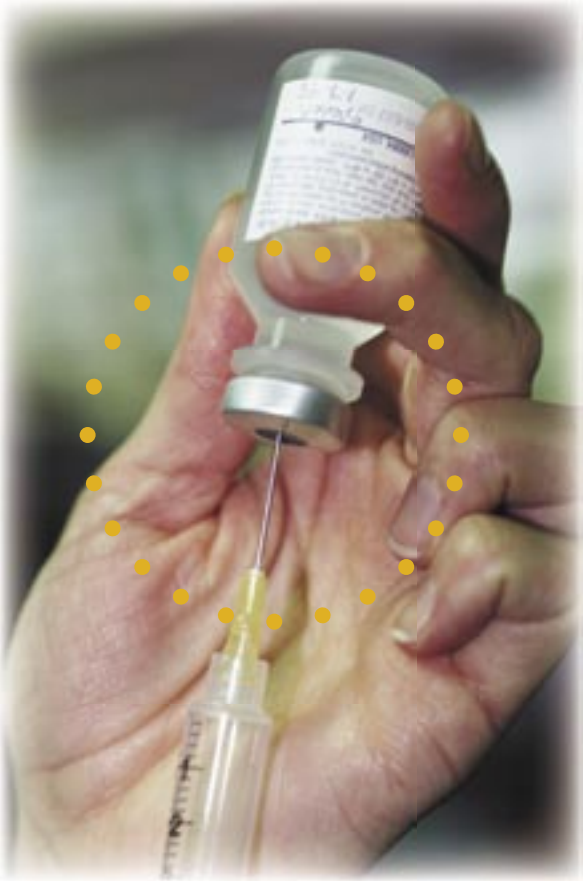
Tobacco Free Sports

The Tobacco Free Sports (TFS) program promotes a tobacco free lifestyle for young athletes by providing educational opportunities and assuring the existence of tobacco free environments during sporting events. Most coaches and recreation leaders are aware of the unique opportunities they have to fill "teachable moments" with lessons about living healthy lifestyles, including being tobacco free and maintaining a nutritional diet to maximize physical activity.



Project activities to be supported are those that have youth being coached by tobacco free leaders, where education is provided about the negative effects of tobacco on health and athletic performance and the importance of maintaining a well balanced, nutritional diet. Any event supported with Tobacco Free Sports funding must be tobacco free, including all sponsors (coaches) and athletes. Coaches and recreation leaders are encouraged to develop long-term tobacco free policies for their sports teams. Any snacks/refreshments provided to team members must be considered part of a nutritional, healthy diet. Sport and physical activity groups associated with schools, community park & recreation associations, sports medicine clinics, teen centers, community groups may participate in this initiative.

Program managers are encouraged to make use of the local media outlets to orchestrate as many earned media opportunities as possible. Partnership should also be developed with local businesses to provide nutritional snacks for participants.



Arthritis

Increasing physical activity and improving nutritional choices among people with arthritis is one of the primary goals of this program. Two physical activity programs specific to arthritis are a primary focus of arthritis programming within Kentucky's local health departments. People with Arthritis Can Exercise (PACE) and the Arthritis Aquatics Program are supported through funding from the CDC Arthritis grant as well as the Preventive Health and Health Services Block Grant.

Diabetes

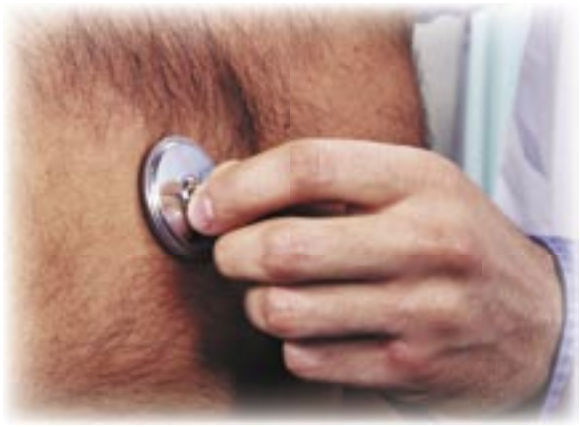
The Kentucky Diabetes Prevention and Control Program (KDPCP) is a public health initiative funded through a CDC grant and with state general funds. KDPCP works with a network of state, regional and local health professionals whose mission is to reduce new cases of diabetes as well as reducing the sickness, disability and death associated with diabetes and its complications. One of KDPCP's most important partners is the Kentucky Diabetes Network (KDN), a statewide partnership of over 200 Kentucky organizations, associations, and individuals who have a professional or personal connection with diabetes.

Coordinated School Health

Coordinated School Health (CSH) is an eight component model that recognizes how health, wellness, environment and learning are related. It is an organized set of policies, procedures and activities designed to promote and sustain the health of students and staff. The CSH model is endorsed by the Centers for Disease Control and Prevention, the Kentucky State Board of Education and supported by the Kentucky School Boards Association. Staff at Kentucky Department of Education (KDE) work with Kentucky schools to establish Coordinated School Health programs.

Heart Disease and Stroke

The Kentucky Heart Disease and Stroke Program (KHDSP) has a very integrated history with the Kentucky Obesity Program. Before the KDPH received funding to focus on physical activity and nutrition to prevent obesity and other chronic diseases, the KHDSP, then called the Cardiovascular Health Program, focused much of its efforts on the primary prevention of heart disease and stroke through physical activity and nutrition. Activities implemented by the cardiovascular grant ranged from 5 A Day promotional activities, building awareness of the "built environment" and increasing physical activity opportunities. The Cardiovascular Health Coalition, which stemmed from the CVH Program, affected state policies on nutrition and physical activity through its nutrition and physical activity workgroups. Members of the CVH Program were also active members of the former Lieutenant Governor's Taskforce on Childhood Nutrition and Physical Activity, working to affect policies on school nutrition and vending machines.



Today, KHDSP is working with the State Nutrition and Physical Activity Program to create and implement its state plan. While KHDSP now provides education and leadership in the secondary prevention of heart disease and stroke it understands that providing the environment for improved nutrition and increased physical activity is the foundation to prevent heart disease and stroke. By sharing our experiences with physical activity and nutrition with the State Nutrition and Physical Activity Program staff, we are establishing evidence-based programs to make Kentucky a healthier place.

Involvement of External Stakeholders and Partners

Partnership for a Fit Kentucky

The Partnership for A Fit Kentucky is the name of the steering committee which has worked to coordinate the development of this plan. Comprised of 50 community leaders from throughout Kentucky, membership includes members from the Kentucky Department of Education, Department of Agriculture, University of Kentucky Cooperative Extensions Service, Rails to Trails, major businesses, faith communities, and advocacy groups. Motivation and enthusiasm are high as the partners' updates tell of increasing community efforts promoting healthy eating and increased physical activity. Because our group is so diverse geographically many of the faces are new to state meetings. New talent and fresh ideas have emerged. A frequent comment by new partners is," I am so impressed with the amount of expertise in this room".

The Partnership began with a core network of dedicated health care professionals and has grown in diversity over the past year. Many new partnerships were formed as a result of our nine statewide forums. As we networked our way across the state nationally recognized experts joined our team.

The group's mission statement is:
To foster healthy weight and fitness to prevent related chronic diseases among Kentuckians. We will develop and support policy and environmental changes that promote healthy eating and active lifestyles.

Community Input Via Regional Forums

Nine regional forums addressing the obesity epidemic were held across the state of Kentucky in August of 2004. Locations chosen included the towns of Lexington, Hazard, Owensboro, Bowling Green, Louisville, Somerset, Ashland, Paducah and Union. To publicize the forums, a kick-off press conference was held in the Capitol, where the Governor,

First Lady and Secretary of Health spoke. Program staff worked closely with the Cabinet's press secretary who issued press releases just prior to each forum. Press releases were also dispatched from the office of the First Lady for those forums she attended.

Approximately 1,300 Kentucky citizens participated in these regional forums by providing input through small and large work group sessions by addressing key interventions as outlined by the Centers for Disease Prevention & Control. In addition to soliciting input, the forums helped to lay the groundwork for networking and relationship building at the local level. Finally, the forums allowed us to gather assessment information regarding on-going community initiatives.

Factors considered in choosing the locations for the forums included:

- Number of locations necessary in order to be representative of the state.
- Existence of facilities large enough to accommodate the anticipated audience.
- Travel logistics including easy access from main highways and minimizing travel time.
- Existence of media outlets to participate in and report on the event.

Regional coordinators were recruited for each forum. The coordinators lived in the town of the forum and were familiar with the area. State staff worked closely with each regional coordinator to establish meeting dates and times. The regional forums were scheduled on dates and times the coordinators thought would work best to attract participants, given the availability of prime meeting space. Meetings were held on each Monday and Thursday during the month of August. Meeting times varied based upon the suggestions of regional coordinators and the availability of meeting space. In two metropolitan areas, hotels provided the meeting space. In a few of the rural areas, partnering organizations played host and provided free meeting space. Meeting places included a public library, health departments, a cooperative extension facility, universities,

rural health facilities, and a performing arts center. Free facilities were used where possible.

State staff worked with the steering committee, especially the regional coordinators to develop invitation lists for each region. Staff also worked with partnering organizations to get access to databases of parties that the group thought would be interested. The invitation list comprised the following categories:

- Elected officials: local, state and federal
- Education representatives: including principals, superintendents, school board members, school food service, and where known, physical education teachers and school nurses
- Academia-medical and nursing schools, and other health disciplines
- Health care professionals: doctors, nurses, dentists, and dietitians
- Health care organizations: hospitals, private practices, non-profits, health departments
- Cooperative extension
- Parks and recreation
- Transportation
- City planners
- School food service representatives
- Faith-based entities
- YMCA, 4-H, scouts, boys and girls clubs, etc
- Health and wellness facilities
- Private industry
- Health insurance representatives
- Media
- National Restaurant Association
- Kentucky Grocer's Association
- AHEC (Area Health Education Center)

All of the data from the forums was entered into an Excel database. The top five priorities by region were posted on the website (www.fitky.org) and disseminated to the media. One of the greatest benefits of the forums was hearing the voice of the public on the obesity issue. The results of the forum immediately captured the legislators' attention and the State Nutrition and Physical Activity staff testified before the Families and Children subcommittee of the House and Welfare Committee early in the fall. The forum outcomes were presented to the Get Healthy Kentucky! Board appointed by the governor to address the health issues of Kentuckians.

Selecting Populations and Strategies for Interventions

After holding the nine regional forums, the planning process returned to the steering committee which broke into groups to develop strategies. The initial strategies identified for implementation in this first edition of the Kentucky Nutrition and Physical Activity State Action Plan are heavily weighted toward policy and environmental change in organizations and institutions. There was strong agreement among the partners that the push to make policy and environmental changes was a priority area and that such changes were crucial. This is in line with current theory arguing that environment and policy change is necessary to support and encourage individual behavior change. All members of the planning groups had heard a presentation of the Kentucky obesity burden document in addition to presentations on evidence-based programs and the role of social marketing in developing strategies. In addition, group members came from all across Kentucky, and the majority had long standing involvement with important target groups and in their areas of expertise (i.e. breastfeeding, schools, legislative initiatives, clinical counseling etc). Because of the use of this broad based group of experts, social habits and beliefs as well as political considerations were addressed as part of the planning process.

Criteria for development of a strategy included 3 factors – 1) high prevalence rates, 2) a clearly modifiable behavior (broadly constructed to include policies) and 3) that strategies be balanced across a variety of social-ecological areas and across intervention areas (from nutrition to physical activity, from healthcare to schools).

The area and target population that has gained the most attention in Kentucky are schools and youth. This target group has been in the public eye for the past 3 to 5 years and was the main topic of discussion at the 9 community forums. Youth in the Tween age group (9-13) have also been a particular focus of the CDC Obesity grant. Social marketing research was used to identify this target group and to plan activities to improve physical activity among Tweens. The strategies developed as a result of this well funded social marketing project will be extended into other areas of the state.

Healthcare providers are another major target group for Kentucky. There was strong support for improving the curriculums offered to health care professionals ranging from medical schools to other allied health professions. Development of CME and CEU offerings targeting nutritional (including breastfeeding) and physical activity assessment, counseling and referrals was identified as a continuing need after health professionals exit their educational programs and for those already in practice.

In targeting worksites, the primary strategies will be related to the development of worksite wellness programs or activities, especially those focusing on nutrition (including breastfeeding) and physical activity.

Within communities, Kentucky will implement strategies in a number of areas, each of which is related to strategies recommended by CDC. These include community education efforts related to breastfeeding, and education in support of parental involvement and role modeling regarding nutritional choices, physical activity and TV screen time among youth. Another significant community target group is our

faith organizations. Within faith organizations, Kentucky will develop resources and provide education to encourage changes similar to those expected of schools. For example, faith organizations can set health standards for foods provided to both adult and youth groups, incorporate physical activity into both adult and youth educational programs and develop opportunities for increased physical activity such as walking clubs or sports activities.

Community sites targeted for physical activity interventions include parks and recreation departments where Kentucky will support increased variety of offering, particularly after school and during hours when families can participate. Kentucky will also address the "built environment" and polices around community development. These strategies will range from supporting requirements for sidewalks and green space in newly developed areas to improvement of the pedestrian and biking environment.

With regard to nutritional supports at the community level, Kentucky will primarily target the expansion of farmers markets along with working with restaurant owners to include healthier selections and portions sizes on menus.

Increasing Partnerships and Participation

One critical aspect of implementing this plan will be expanding the number of agencies, organizations and groups actively involved in pursuing the kinds of changes identified by the steering committee. As we move from broad ideas about the kinds of changes needed to more specific local implementation of programs it is important to ensure that planned activities meet the needs of each location and target group.

One of the best methods for ensuring that activities are effectively planned and implemented is by using Community Based Prevention Planning (CBPP). CBPP draws on the techniques used by market researchers to design programs that speak to the unique characteristics of each community and target group. Doing this ensures that those seeking change design programs that will meet the objective of the program while being welcomed in the community.

A primary activity of the Partnership for A Fit Kentucky in the coming months and years will be assisting communities to identify appropriate audiences for their programs and designing programs that meet community expectations and needs.

Chapter 3: Knowing Where We Want to Go: Goals and Objectives

Healthy Kentuckians 2010 is our state's commitment to the national prevention initiative called Healthy People 2010. "Healthy People" is an initiative that defines the nation's health agenda and guides policy. It includes specific objectives that are to be monitored up to the year 2010. Existing Healthy Kentuckian 2010 Goals and Objectives have been used to guide the development of Goals and Objectives for the "Kentucky Nutrition and Physical Activity State Action Plan". In most cases, the original 2010 objective was modified from the original. This occurred in instances when 1) surveillance/evaluation of the original would not be possible due to the way the target population was stated, 2) the proportion or amount of change targeted was not realistic to achieve or 3) the proportion of amount of change targeted had already been achieved or was nearly reached justifying a higher standard. Finally, some previously separate objectives were combined in order to condense the overall number of objectives. In addition to modifications of the 2010 objectives, some entirely new objectives were written in cases where the 2010 objective was obsolete. This was particularly true for objectives for public schools, where some objectives ran counter to legislative mandates.

Goal 1.

Promote good health and reduce chronic disease risk, disease progression, debilitation, and premature death associated with poor nutrition and physical inactivity in Kentucky.

Goal 2.

Improve the health, fitness, and quality of life for Kentuckians through the adoption and maintenance of regular physical activity and healthy nutritional choices.

Long-term, Intermediate and Short Term Objectives

Long-term objectives reflect anticipated changes in health status by 2015. Long-Term objectives 1 and 2 are specific to reducing obesity rates in adults and children. Long-Term objectives 3, 4, and 5 address increasing physical activity, improving nutritional environment and choices and increasing breastfeeding incidence and duration.

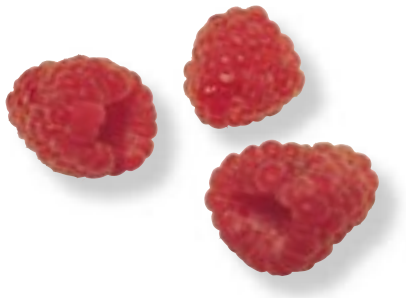
Intermediate objectives reflect desired **changes in behavior, environment, or policy** to be achieved by the year 2010. The ecological area of impact is listed for each intermediate objective as well as the key partners that either participated in planning strategies for reaching each objective or that are envisioned as having key roles in implementing changes to reach the objective. Short-term objectives are listed under each intermediate objective, and refer to process changes by 2007.

1. Increase to at least **50 percent** the prevalence of healthy weight among people aged 20 and older.
   Current status: 35 percent (BRFSS 2003)

2. Reduce to **5 percent** or less the prevalence of overweight children and adolescents.
   Current status: 17 percent for ages 2-4, 17 percent for grades 6-8, and 15 percent for grades 9-12 (PedNSS 2002, YTS 2002, YRBS 2003)

3. Increase to at least **45 percent** the proportion of adults who engage in regular physical activity for at least 20 minutes three or

more times weekly, and increase to at least **40 percent** the proportion of children and adolescents who engage in moderate physical activity for at least 30 minutes on five or more days weekly.
Current status: 22 percent for adults (BRFSS 2003), 21 percent for children and adolescents (YRBS 2003)



3.1. Increase the number of weekend and after-school recreation programs. Ecological Level: Community and Institution
Key Partners: Kentucky Action for Healthy Kids
Kentucky High School Athletic Association

3.1.a. Identify and promote family-oriented, low-cost fitness activities.
3.1.b. Identify and promote recreational activities for after-school programs that replace non-homework computer and television screen time.
3.1.c. Work with schools to develop after-school intramural sports programs.

3.2 Increase training opportunities on physical activity promotions such as Longest Day of Play, VERB Summer Scorecard, and Safe Routes to School.
Ecological Level: Family and Community
Key Partners: Lexington-Fayette County Health Department and Northern Kentucky District Health Department

3.2.a. Identify organizers for community-wide events.
3.2.b. Schedule regional training programs for community organizers.
3.2.c. Promote training opportunities through community group newsletters and professional organizations that promote physical fitness.

3.3 Increase the number of policies, practices, and incentives that promote physical activity in schools.
Ecological Level: Institution
Key Partners: Kentucky Action for Healthy Kids
Kentucky Department of Education
Kentucky Coordinated School Health Advisory Council

3.3.a. Work with the Kentucky Department of Education and Site-based Decision Making Councils to identify effective ways to promote physical activity during school hours.

3.3.b. Provide guidance and support to establish Coordinated School Health Teams and local school wellness policies in all schools.

3.3.c. Define healthy standards and establish minimum K-12 yearly physical activity requirements.

3.4 Increase the number of schools that provide access to physical activity spaces and facilities outside of normal school hours.
Ecological Level: Institution
Key Partners:Kentucky Action for Healthy Kids

3.4.a. Identify barriers that prevent schools from offering facilities outside normal school hours.

3.4.b. Work with Site-based Decision Making Councils to establish guidelines for facility usage.

3.5 Increase the number of faith-based organizations promoting physical activity.
Ecological Level: Community
Key Partners:Kentucky Council on Churches

3.5.a. Develop and promote resources promoting physical activity for faith-based organizations.

3.5.b. Encourage the inclusion of physical activity in youth education programs.

3.5.c. Support walking clubs and other low-impact physical activities within and among congregations.

3.6 Increase the number of physical activity opportunities offered through local parks and recreation departments.
Ecological Level: Community & Institution
Key Partners:Kentucky Recreation and Parks Society

3.6.a. Conduct local community assessments to determine gaps in existing physical activity programs.

3.6.b. Support increased funding of Kentucky Recreation and Parks Society.

3.7 Increase the number of worksites with 100 or more employees offering employer-sponsored fitness programs.
Ecological Level: Institution
Key Partners:Kentucky Department for Public Health
KC Wellness
Commonwealth Health Corporation

3.7.a. Develop a statewide wellness network to provide employers with information on successful activities and services.

3.7.b. Promote the development of safe indoor and/or outdoor measured walking tracks.

3.7.c. Promote clean stairways and use point of decision prompts for using stairways.

3.8 Increase the number of employers that provide physical activity incentives through worksite wellness programs.
Ecological Level: Institution
Key Partners: Kentucky Department for Public Health
KC Wellness
Commonwealth Health Corporation

3.8.a. Provide information to employers on incentive-based programs to encourage physical activity, such as pedometer walking challenges.

3.8.b. Encourage employers to offer flexible work hours for physical activity.

3.8.c. Encourage employers to provide discounted memberships at local health clubs, YMCAs, or recreation centers.

3.9 Increase the proportion of health care providers who routinely assess and counsel their patients regarding physical activity.
Ecological Level: Individual
Key Partners: Kentucky Public Health Association
Kentucky Department for Public Health

3.9.a. Develop accessible CMEs/CEUs for health professionals on counseling patients about physical activity.

3.9.b. Develop measurable guidelines regarding fitness for physicians.

3.9.c. Pursue academic detailing opportunities for health care providers on counseling patients about physical activity and fitness levels.

3.10 Increase the proportion of managed care organizations and hospitals that promote physical activity in the community.
Ecological Level: Community and Institution
Key Partners: Kentucky Department for Public Health
Kentucky Public Health Association

3.10.a. Encourage representatives from managed care organizations and hospitals to promote physical activity programs within faith-based organizations, schools, and other community-based groups.

3.10.b. Include managed care organizations and hospitals as sponsors for community-wide events such as Longest Day of Play and Summer Scorecard.

3.10.c. Encourage managed care organizations and hospitals to lead by example and offer worksite wellness programs and physical activity opportunities at their facilities.

4. Increase to at least **40 percent** the proportion of adults and children who eat at least five servings of fruits and vegetables daily. *Current status*: 22 percent for adults (BRFSS 2003), 13 percent for grades 9-12 (YRBS 2003). Data not available for children ages 2-4 or grades 6-8.

4.1 Increase the number of farmers markets and participation at farmers markets.
Ecological Level: Family and Community
Key Partners:Kentucky Department of Agriculture

4.1.a. Collect baseline data on existing farmers markets.

4.1.b. Identify best practices used in neighboring states for promoting farmers markets.

4.1.c. Develop a marketing plan to promote and coordinate farmers markets.

4.2 Establish a community garden program and community gleaning program. Ecological Level: Family and Community
Key Partners: Kentucky Department of Agriculture
Cooperative Extension Service
Community Action Agencies

4.2.a. Identify community organizations willing to participate in community garden and gleaning programs.

4.2.b. Identify best practices used for existing community garden and gleaning programs.

4.2.c. Develop a plan to promote and coordinate community garden and gleaning programs.

4.3 Increase the number of schools utilizing locally grown produce.
Ecological Level: Institution
Key Partners:Cooperative Extension Service
Kentucky Department of Education
Kentucky Department of Agriculture

4.3.a. Identify school districts located in Kentucky's fruit and vegetable marketing cooperative areas.

4.3.b. Work with Site-based Decision Making Councils to implement a Kentucky Farm-to-School Program in at least one school district in each marketing cooperative area.

4.4 Increase the number of children whose intake of meals and snacks at school contributes to a healthy diet.
Ecological Level: Individual and Institution
Key Partners: Kentucky Action for Healthy Kids

4.4.a. Pursue legislation that promotes healthy vending machine choices in schools such as low-fat milk, water, 100% fruit juice, and low-fat snacks.

4.4.b. Provide information to schools that promote healthy eating, such as Food for Thought: Healthy Food Guidelines for Schools.

4.4.c. Provide training for food service directors and school personnel on topics such as classroom snacks and parties, alternatives to food rewards, programs and meetings, special events, and fund raising without food.

4.5 Increase the proportion of students to who eat breakfast at school.
Ecological Level: Individual & Institution
Key Partners: Kentucky Department of Education
Kentucky Department for Public Health

4.5.a. Provide information to schools on "Grab and Go Breakfast", "Breakfast at 1st Period", "Breakfast in the Classroom", and similar evidence-based programs.

4.5.b. Offer assistance in developing breakfast programs by providing training to food service directors and school personnel.

4.6 Increase the number of policies, practices, and incentives that promote healthy eating in schools.
Ecological Level: Institution
Key Partners:Kentucky Action for Healthy Kids

4.6.a. Pursue legislation that delineates guidelines and criteria for school food service a la carte items and school vendors.
4.6.b. Pursue legislation that requires credentialing or certification for school food service directors.
4.6.c. Provide guidance, support, and model for developing local school wellness policies and local Coordinated School Health Committees.

4.7 Increase the number of faith-based organizations promoting healthy eating.
Ecological Level: Community
Key Partners:Kentucky Council on Churches

4.7.a. Develop and promote resources for faith-based organizations that promote healthful eating.
4.7.b. Develop model policies and/or guidelines for food and snacks provided during youth group activities.

4.8 Increase the proportion of managed care organizations and hospitals that promote healthy eating in the community.
Ecological Level: Community & Institution
Key Partners: Kentucky Department for Public Health
Kentucky Public Health Association

4.8.a. Encourage representatives from managed care organizations and hospitals to promote nutrition programs within faith-based organizations, schools, and other community-based groups.
4.8.b. Encourage managed care organizations and hospitals to lead by example and offer healthy nutritional choices in cafeterias and vending machines.

5. Increase to at least **75 percent** the proportion of mothers who breastfeed their babies in the early postpartum period; to at least **50 percent** the proportion of who continue breastfeeding for six months; and to at least **25 percent** the proportion who continue breastfeeding up to one year.
Current status: 57 percent of babies are breastfed at some point; 25 percent are breastfed at six months; 11 percent are breastfed at 12 months (National Immunizations Survey)

5.1 Increase the number of statewide trained breastfeeding peer counselors to 100.
Ecological Level: Community
Responsibility: Kentucky Department for Public Health

5.1.a. Pilot 4 peer counseling programs in Ashland, Hazard, Louisville, Marshall County

5.2 Provide breastfeeding CME/CEU opportunities to health professionals annually.
Ecological Level: Institution
Responsibility: Kentucky Department for Public Health
Area Health Education Centers

5.2.a. Promote and support breastfeeding trainings for health professionals.

5.3 Incorporate breastfeeding education into the pre-service curriculum for health professionals at two universities or colleges.
Ecological Level: Institution
Responsibility: Kentucky Department for Public Health
Kentucky Public Health Association

5.3.a. Work with colleges and universities to include breastfeeding in their curriculum.

5.4 Enact legislation to protect and promote breastfeeding-friendly policies in public places and worksites.
Ecological Level: Community and Institution
Responsibility: Kentucky Public Health Association

5.4.a. Reintroduce legislation for breastfeeding-friendly policies in public places and worksites

5.5 Encourage breastfeeding by promoting breastfeeding resources (local breastfeeding support phone book and website for national support links)
Ecological Level: Community
Responsibility: Kentucky Department of Public Health

5.5.a. Develop resource guide of local support phone numbers.

Chapter 4: Strategies for Change — Settings for Action

The strategies developed to move Kentucky toward meeting the long, intermediate and short-term objectives laid out in the previous section were developed by representatives of the agencies, organizations and groups that have committed to carrying out those same strategies. Underlying the development of these strategies is the assumption that progress can only be made by engaging the support and active involvement of a wide variety of groups acting across a wide variety of settings. The strategies identified for action in the first year of the plan are presented below according to the following settings:

- Healthcare Delivery Systems
- Schools
- Worksites
- Communities

Healthcare Delivery Systems

As used in this document, the term "Healthcare Delivery Systems" refers to a wide range of health care providers, including practitioners as diverse as primary care physicians, pediatricians, cardiologists, endocrinologists, dentists, dietitians, nurses, pharmacists or any healthcare professional in the position to provide preventive care to those at risk for chronic diseases due to inactivity and poor nutritional choices. Also included are universities and colleges providing training for physicians and healthcare providers, health insurance plans, local health departments and hospitals whether local or regional.

There are many points of opportunity within the network of healthcare providers to have the opportunity to impact the physical activity levels and nutritional behavior of at risk individuals. Health care delivery systems can play an important role in promoting physical activity and healthy eating through a variety of methods such as counseling, referrals, testing for disease risk factors, promoting breastfeeding as the best start for infants and partnering with other community organizations for health promotion. The type of support given may be in the area of primary prevention (preventing disease before it starts), or in secondary prevention (mitigating the risk factors of established disease).

Beneficial changes could be made at various points in the system. Examples include:

- Strengthening medical school and allied health curriculums to cover physical activity, nutrition and breastfeeding, including counseling techniques and appropriate referrals.
- In fee-for-service systems, establish and enhance referral and billing procedures for physical therapy, medical nutritional therapy and breastfeeding.
- Provide training to practicing physicians to improve their knowledge of primary and secondary prevention techniques.
- Inclusion of policies and procedures to promote nutrition, physical activity and breastfeeding education and treatment services within managed care plans.

Strategies Breastfeeding	Target Group	Lead Agency	Ecological Level
HB 1.1 - Continue to develop CMEs/CEUs for health professionals concerning breastfeeding.	Health Care Professionals in contact with nursing mothers.	KDPH, AHEC	Health Professional Behavior
HB 1.2 - Ensure pre-services curricula for various health professionals include breastfeeding.	Deans at KY Colleges and Universities Students in KY health fields	KPHA	Health Professional Behavior
HB 1.3 - Write bill and obtain sponsor for legislation to protect and promote breastfeeding friendly policies in the public and worksites.	Legislature, Business Owners	KPHA	Policy Community Environment
HB 1.4 - Promote Baby Friendly Hospitals by promote and practicing the World Health Organization's "Ten Steps to Successful Breastfeeding"	Health Administrators, Insurance	KDPH, Breastfeeding Grantees	Policy Community
HB 1.5 - Increase the number of International Board Certified Lactation Consultants by 30 health professionals statewide.	Health Professionals, Health Services Administrators	KDPH	Health Professional Behavior

Strategies Physical Activity and Nutrition	Target Group	Lead Agency	Ecological Level
HE 1.1 – Conduct academic detailing review of physician needs concerning nutrition and physical activity.	Health care professionals	KDPH	Health Care Provider Behavior
HE 1.2 - Develop easily accessed CMEs/CEUs for various health professionals on counseling about nutrition and physical activity.	Health care professionals	KDPH, KPHA, AHEC, Insurance	Health Care Provider Behavior
HE 1.3 - Ensure pre-services curricula for various public health professionals include nutrition, physical activity.	Deans at KY Colleges and Universities Students in KY allied health fields	KDPH and KPHA	Health Care Provider Behavior
HE 1.4 - Develop measurable guidelines regarding fitness for physicians.	Physicians	Fit Louisville	Health Care Provider Behavior
HE 1.5 - Develop a consistent statewide message for public health education related to nutrition, physical activity.	Health Educators	Partnership for Fit Kentucky	Health Care Provider Behavior
HE 1.6 - Promote nutrition and physical activity strategies in health care environments.	Healthcare facilities	Healthcare Association	Institutional

Schools

Kentucky youth exhibit alarmingly high rates of overweight and risk for adulthood obesity and overweight. In conjunction with increased weight, the health problems that accompany overweight such as diabetes and asthma appear to be increasing among Kentucky youth. At the same time, opportunities for youth to make healthier choices have decreased. The list of "culprits" is familiar, few children walk or bike to school as their parents might have; daily PE is no longer available, squeezed out of the school day in part by the pressure of academically based school reform; many schools are driven to fill in financial gaps by offering foods that compete with school lunches (soft drinks, chips, candy and fast food); and sedentary activities such as video games, computer chatting and television become the leisure activities of choice.

This nutrition and physical activity prevention plan recognizes that schools cannot be expected to shoulder the burden of reversing the trend in childhood obesity on their own. Yet schools must play a central role in making policy and environmental changes to support healthier choices for both students and staff. Schools are after all, the place where youth spend a substantial portion of their time and are also a major employer. Additionally, given the opportunity, school staff can model healthier lifestyle choices to students.

When attempting to address school policies and environment it is important to recognize that because of KERA (Kentucky Education Reform Act), many decisions regarding the operation of schools are made locally. Schools and youth have been a significant focus by different advocacy groups, leading some groups to advocate for statewide legislative mandates to change, while others seek change via local

Nutrition Environment Strategies	Target Group	Lead Agency	Ecological Level
SN 1.1 – Work to ~~i~~improve postsecondary teacher training curricula to address nutrition and physical activity components across the curriculum.	Deans of Colleges of Education, Current K-12 teachers Pre-service Professional Development	KDE P-16 Council Kentucky Educational Professional Standard Board	Institutional
SN 1.2 – Promote participation in school breakfast programs via evidence based programs.	Local Food Service Directors, KY School Food Service Association (KSFSA), Ky. Assoc. of School Councils	KDE	Institutional, Individual behavior change
SN 1.3 - Pursue legislation, which delineates guidelines and criteria for school food service a la carte items and school vendors.	Legislators, Local Food Service Directors	Kentucky Action for Healthy Kids	Policy
SN 1.4 - Identify and pursue avenues for providing free or very low cost fresh fruits and vegetables in schools. (i.e. federal funding opportunities)	School Food Service Students	UK Extension KDE	Institutional
SN 1.5 – Work with internal partners to ~~C~~collect height and weight in 3rd and 9th grade students through Children's Oral Health Surveillance System	Students	KDPH Oral Health Program	Institutional
SN 1.6 – Work to ~~E~~establish standard qualifications for school food service directors.	Local Food Service Directors	KDE	Institutional, Policy
SN 1.7 - Pursue legislation to require certification or credentialing for School Food Service Directors.	Legislators Local Food Service Directors	KY Action for Healthy Kids	Institutional, Policy
SN 1.8 - Provide guidance, support and models for the development of local school wellness policies and programs/ Coordinated School Health Committees in all Kentucky schools; these local wellness policies will address nutrition guidelines for all foods available on the school campus during the day and will address goals for physical education and activity.	Local Districts, Schools	KDE – KY Coordinated School Health Advisory Council	Policy, Institutional

decisions. The strategies for changing school environments listed below include both views. Given the level of interest in youth and school issues, it is clear that both approaches will be seen in Kentucky in the coming years.

Although schools are not expected to shoulder the burden of reversing the trend in childhood obesity on their own, schools do play a central role in making policy and environmental changes that support healthier choices for students and staff. The strategies listed above are designed to provide schools the necessary avenues of change needed to have a healthier environment for children to learn and for staff to be positive role models.

Physical Activity Strategies	Target Group	Lead Agency	Ecological Level
SPA 1.1 – Work to improve postsecondary teacher training curricula to address nutrition and physical activity components across the curriculum.	Deans of Colleges of Education Current K-12 teachers Pre-service Professional Development	KDE	Institutional, Policy
SPA 1.2 - Pursue legislative action to define healthy standards for physical activity in elementary, middle/junior and high schools.	Legislators School PE programs Students	Legislative Sub Committee KY Action for Healthy Kids	Public Policy
SPA 1.3 - Provide guidance, support and models for the development of local school wellness policies and programs/Coordinated School Health Committees in all Kentucky schools; these local wellness policies will address nutrition guidelines for all foods available on the school campus during the day and will address goals for physical education and activity.	Local Districts, Schools	KDE – KY Coordinated School Health Advisory Council	Policy, Institutional
SPA 1.4 – Work to increase opportunities for intramural sports and physical activity after school hours and on weekends.	Schools	KY Action for Health Kids, KY HS Athletic Association	Policy, Community

Worksites

While children spend a great deal of time in schools, adults spend the bulk of their hours in the workplace. Over the past two decades, the rising cost of employee healthcare has been a major challenge to American employers. These rising healthcare costs give employers a vested interest in the health of their employees, and their employees' families. Efforts to promote healthier lifestyles through the workplace can address both employers concerns over the business healthcare costs and the overall public health concern to improve population health.

A 1999 nationwide survey on worksite health promotion showed that 90% of U.S. companies sponsor at least one health-promotion activity. In 2000, the Kentucky Department for Public Health, Cardiovascular Health Program, conducted a similar survey of Kentucky worksites. In Kentucky, 81% of worksites reported that they had offered at least one health promotion activity in the previous year. Thirty-nine percent of the worksites surveyed had some type of employee wellness or health promotion program. This survey provides good baseline data on existing employee wellness programs in Kentucky and demonstrates that Kentucky employers are ready to participate in improving the health of their employees' and their families.

Three primary barriers to implementing worksite wellness programs are cost, physical space and staffing. Yet there are strategies that can be used by any worksite that are very low cost, require little space and put few demands on staff. Examples of "employer friendly" options for beginning to change the work environment include:

- Develop cafeteria and vending machine signage labeling healthy choices.
- Develop policies or guidelines for providing healthy food and beverage options at work related gatherings (work meetings or social events).
- Support walking breaks for employees when conditions permit.
- Enact policies to support new mothers in breastfeeding.
- Provide educational material in organizational media such as newsletters, payroll stuffers or bulletin boards.

The following short-term objectives have been established for the school venue. Specific strategies or interventions designed to meet these objectives are listed in the tables that follow. These are strategies which have been identified by key partners as important to the effort to meet planned objectives, and for which a specific lead agency has been identified.

Strategies	Target Group	Lead Agency	Ecological Level
WS 1.1 - KY Cabinet for Health and Family Services will lead by example in developing and offering a worksite wellness program.	KCHFS employees	KCHFS	Institutional
WS 1.2 - Develop statewide worksite wellness network coordinated through the state to provide Kentucky employers information on existing successful activities and services without having to create a new program.	Worksite with >100 employees	KDPH	Institutional, community
WS 1.3 - Develop a marketing tool that demonstrates to companies their return on investment by implementing a worksite wellness program	Employers	Partnership For A Fit Kentucky	Community
WS 1.4 - Develop a networking system to help smaller companies partner with other small companies.	Employers	Partnership For A Fit Kentucky	Community
WS 1.5 - Provide worksite wellness network a WELCOA membership and resources.	Employers	Partnership For A Fit Kentucky	Community
WS 1.6 - Develop and promote assessments through cultural audits	Employers	Partnership For A Fit Kentucky	Community
WS 1.7 - Conduct pilot project, Well@work, to study effect of intensive, worksite-based employee fitness program focusing on improving eating habits, increasing physical activity, and managing hypertension,	Employees	UAW/Ford - CHI	Community
WS 1.8 - Develop resource guide of best practices using WELCOA guidance:	Employers	Partnership For A Fit Kentucky	Institutional
WS 1.9 - Provide statewide training on “Winners Circle”. “Winner’s Circle” will provide guidelines and implementation strategies to promote healthful eating in worksite vending and cafeterias.	Employers, employees and their families	Partnership For A Fit Kentucky	Institutional, community
WS 1.10 - Develop and promote policies that model healthy eating in the workplace. (ex. Free Fruit Friday, guidelines for meetings, making refrigerators available for employees food storage)	Employers, employees and their families	Partnership For A Fit Kentucky	Community, public policy

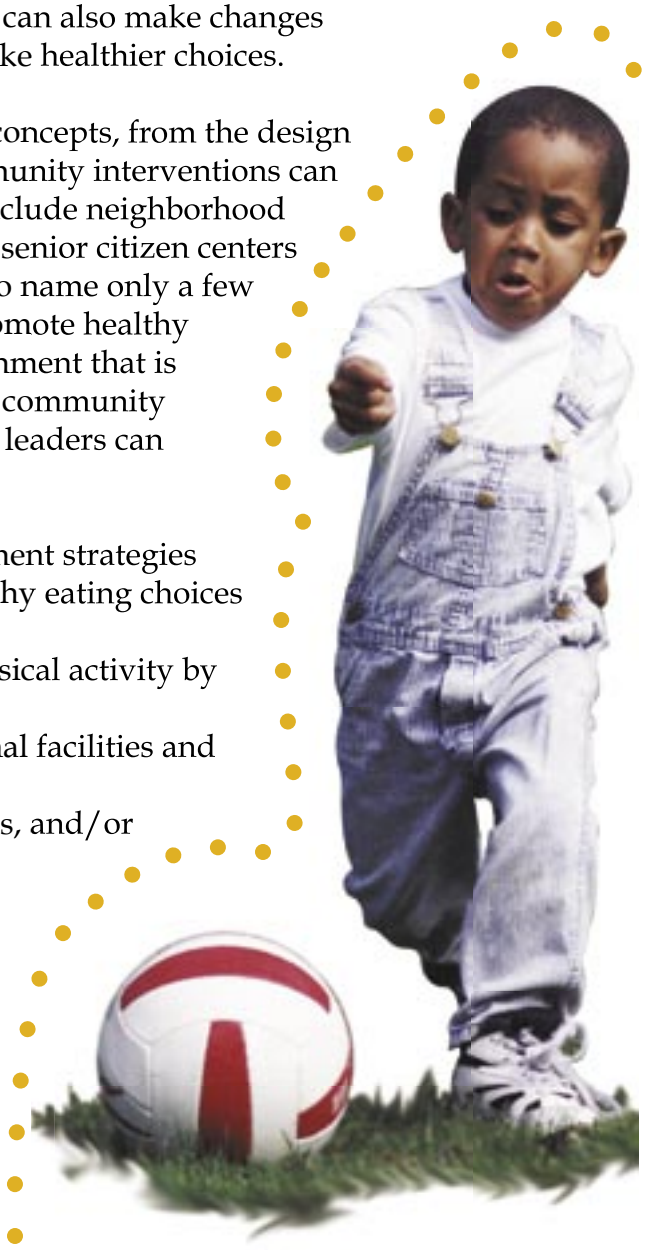
Strategies	Target Group	Lead Agency	Ecological Level
WS 1.11 - Promote the use of locally grown produce in worksite cafeterias and through worksite farmers market.	Employers, employees and their families	Department of Agriculture	Community, public policy
WS 1.12 - Provide and disseminate information on point of decision signage.	Employers, employees and their families	Northern Kentucky Health Department, University of Cincinnati,	Institutional, community
WS 1.13 - Promote the development of safe indoor and outdoor measured walking tracks.	Employers, employees and their families	Partnership For A Fit Kentucky	Institutional
WS 1.14 - Implement incentive-based programs to encourage physical activity, such as pedometer walking challenges.	Employers, employees and their families	Partnership For A Fit Kentucky	Community, public policy
WS 1.15 - Develop policies that promote clean attractive stairways use through point of decision prompts	Employers	Partnership For A Fit Kentucky	Institutional, public policy
WS 1.16 - Encourage companies to offer flexible work hours for physical activity during the day.	Employers	Partnership For A Fit Kentucky	Institutional, public policy
WS 1.17 - Provide discounted memberships at local health clubs, YMCA or recreation centers.	Employers, employees and their families	Partnership For A Fit Kentucky	Community
WS 1.18 - Promote breastfeeding friendly policies in workplace	Breastfeeding Women, Employers, Pregnant women	KDPH, Breastfeeding grantees	Institutional
WS 1.19 - Promote designation of specific areas to support self-management for employees who would benefit from privacy such as people with diabetes and nursing mothers.	Employers, Employees	KDPH	Public Policy, Institutional, Community

Communities and the Built Environment

While schools and worksites lend themselves to targeting very specific populations of people, "Communities and the Built Environment" have the potential to impact Kentuckians of all descriptions – from children to the elderly, all races and ethnicities, able bodied and physically challenged, all incomes and any other categorization that we can imagine. Just as our schools and workplaces can make changes that promote

healthy eating and physical activity, communities can also make changes that support and even motivate individuals to make healthier choices.

The built environment embraces a wide range of concepts, from the design of schools, to land use and urban planning. Community interventions can cover a broad range of the social landscape and include neighborhood development, urban renewal, faith organizations, senior citizen centers and city or county parks and recreation facilities to name only a few potential intervention sites. Communities can promote healthy eating and physical activity by creating an environment that is supportive of those behaviors. Working together, community leaders, philanthropic organizations and business leaders can impact the health of their communities.



A few examples of community and built environment strategies that promote increased physical activity and healthy eating choices include:

- Planned development that encourages physical activity by including sidewalks and green spaces.
- Providing free or low cost public recreational facilities and program.
- Offering smaller portion sizes in restaurants, and/or lower calorie choices.
- Supporting farmers markets.
- Encouraging alternative transportation via bicycles and walking where feasible.
- Implementing walking programs in malls, churches and faith communities, senior centers and neighborhoods.
- Providing clean, convenient spaces for mothers to breastfeed or pump.

Community Breastfeeding Strategies	Target Group	Lead Agency	Ecological Level
CBF 1.1 - Promote breastfeeding through "Shape the Future: Breastfeed" and/or " Loving Support to Build a Breastfeeding Friendly Community" (Breastfeeding promotion)	Pregnant women and new mothers	KDPH	Individual behavior change
CBF 1.2 - Implement breastfeeding peer counseling program	New mothers and pregnant women	KDPH	Individual behavior change
CBF 1.3 - Promote use of breastfeeding component of 1-800 MCH hotline and breastfeeding resource guide.	New mothers and pregnant women	KDPH	Institutional

Community Strategies to Increase Physical Activity	Target Group	Lead Agency	Ecological Level
CPA 1.1 - Provide more family fitness oriented activities.	County and local Parks and Recreation Departments	Kentucky Recreation & Parks Society	Community
CPA 1.2 - Provide statewide trainings on specific youth PA programs such as Longest Day of Play, VERB summer scorecard and Safe Routes to School program.	Community Organizers	KDPH, NKYHD, LFCHD	Community
CPA 1.3 - Identify and promote low cost physical activity facilities statewide.	Kentucky residents	KDPH, Local HD's	Community
CPA 1.4 - Identify, develop and promote affordable after school programming that promotes recreation in place of non-homework computer/TV screen time.	After school programs	Partnership for a Fit Kentucky	Institutional
CPA 1.5 - Provide training on physical activity through play through "Getting Kids Physical Activity" program	Community Organizers	LFCHD	Community
CPA 1.6 - Implement "Tweens" Program in three communities	Local Health Departments	LFCHD, KDPH	Community
Community Faith Organization Strategies	**Target Group**	**Lead Agency**	**Ecological Level**
CFO 1.1 - Develop and promote resources for faith-based organizations that promote healthful eating and physical activity.	Faith-based organizations	Kentucky Council of Churches,	Institutional
CFO 1.2 - Develop model policies/guidelines for food, snacks provided during youth group activities.	Faith based organizations	Kentucky Council of Churches	Institutional
CFO 1.3 - Encourage physical activity as part of youth education programs.	Faith based organizations	Kentucky Council of Churches	Institutional
CFO 1.4 - Support walking clubs and other low impact physical activities within/among congregations.	Faith based organizations	Kentucky Council of Churches	Institutional
CFO 1.5 - Support educational programs by parish/ congregational nurses.	Faith based organizations	Kentucky Council of Churches	Institutional
Community Strategies to Increase fruit and Vegetable Consumption	**Target Group**	**Lead Agency**	**Ecological Level**
CFV 1.1 - Increase marketing of farmers' markets.	General Public	Dept. of Agriculture, KDPH	Community
CFV 1.2 - Identify "best practices" used in neighboring states for promoting farmers' markets.	Farmers Markets	Dept. of Agriculture, KDPH	Community

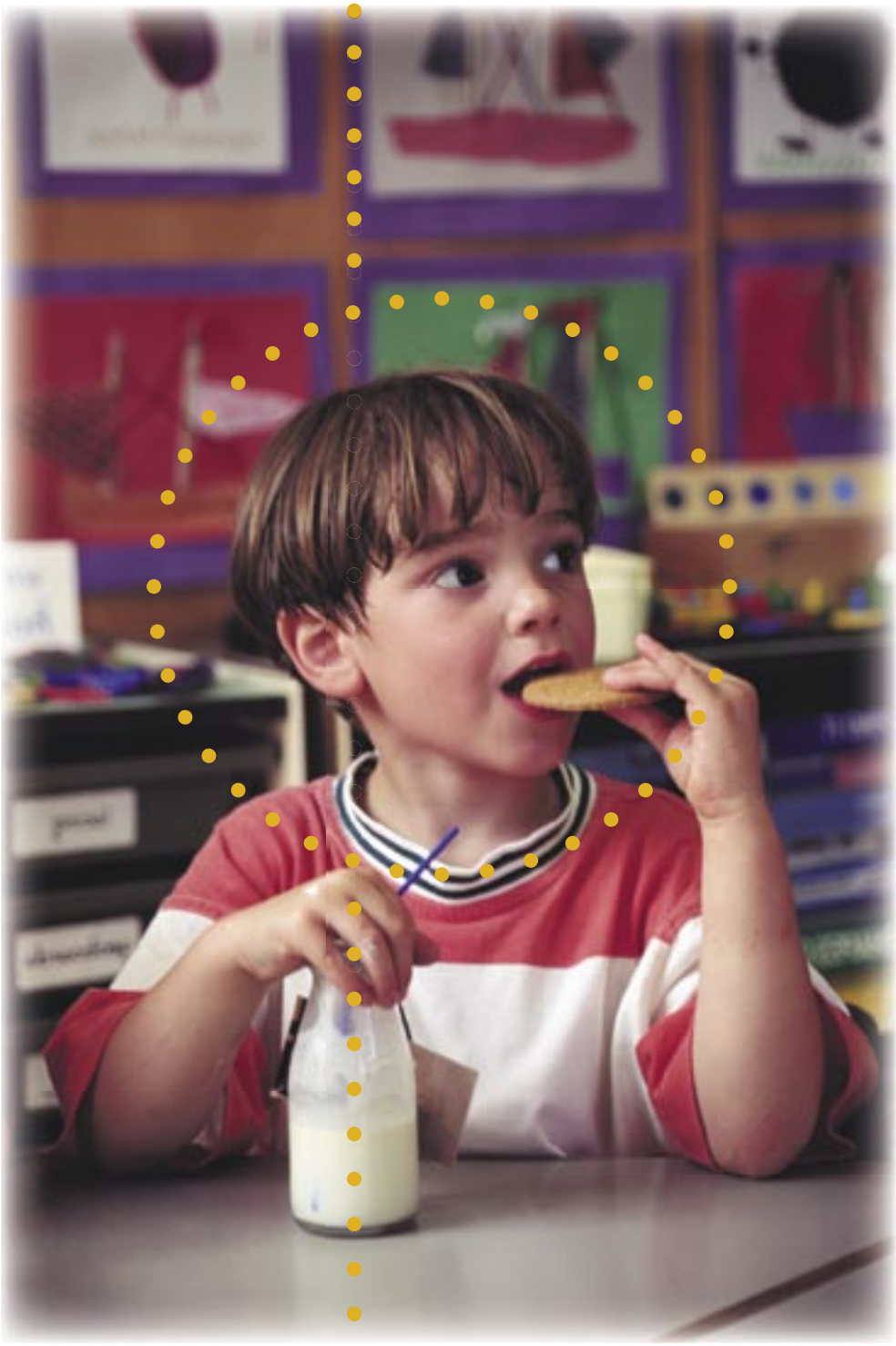
Community Parental Role Modeling and Involvement Strategies	Target Group	Lead Agency	Ecological Level
CPI 1.1 - Identify current providers of parenting classes throughout the state. Develop and distribute nutrition/physical activity components to supplement parenting classes.	Parents	Partnership for a Fit Kentucky	Institutional
CPI 1.2 - Develop and produce a series of television broadcasts on pertinent health issues regarding nutrition and physical activity.	Parents	Foundation for a Healthy Kentucky, Kentucky Educational Television	Interpersonal, Institutional
CPI 1.3 - Develop and distribute video that describes childhood obesity epidemic and what can be done about it.	Schools and parents	KET, UK-PRC	Interpersonal, Institutional
CPI 1.4 - Provide parent training specifically addressing nutrition and physical activity issues through Growing Healthy Kids 2005 conference	Parents	Kentucky Dietetic Association, UK Cooperative Extension,	Interpersonal, Institutional
CPI 1.5 - Provide promotion and training for programs that encourage parental involvement such as “Family Week” “Family Night Out”, “Turn Off TV week” and “Family Meal Campaign”	Families	American Heart Association, Kentucky Council on Churches	Community
Other Community Nutrition Strategies	**Target Group**	**Lead Agency**	**Ecological Level**
CN 1.1 - Provide statewide guidelines and implementation strategies to promote healthful eating in restaurants, vending machines, and sporting events through the North Carolina Prevention’s Winner’s Circle Program.	Kentucky Residents	Northern Kentucky Health Department, Lexington County Fayette Health Department,	Institutional
CN 1.2 - Provide clearing house on guidelines, contracts, resources and success stories for vending machines in schools and in community.	All sites with Vending Machines	Pennyrile Community Services	Community

Built Environment Strategies	Target Group	Lead Agency	Ecological Level
BE 1.1 - Conduct statewide community assessment on the built environment to identify partners and successful active friendly environments to build on best practices.	City Planners, County Judge Executive, Legislators,	Partnership for a Fit Kentucky, Kentucky Department for Transportation	Institutional, community
BE 1.2 - Develop statewide built environment network to bring awareness and exchange best practices	City Planners, County Judge Executive, Legislators,	KDPH	Institutional, community
BE 1.3 - Develop and offer Active Friendly Environment regional workshops covering the fundamentals of an active friendly environment, community advocacy, funding opportunities and Safe Routes to School initiatives.	Coordinated School Health, School Staff, Neighborhood organizations, community planners	KDPH	Institutional, community
BE 1.4 - Partner with Rails to Trails in developing a “Bluegrass Trail	Kentucky tourist, Kentucky residents	Kentucky Rails to Trails Council	Institutional, community
BE 1.5 - Promote and distribute biennial Kentucky guide to bike hike and pedestrian facilities. This guide will be available to agencies and tourists.	Kentucky tourist Kentucky residents	Partnership for a Fit Kentucky	Institutional, community
BE 1.6 - Provide training and certification for Safe Routes to School Program	Coordinated school health, local health departments	Northern KY Health Department	Institutional, community
BE 1.7 - Develop and promote community campaign to increase awareness of how dogs and their owners can be more physically active and help one another be healthier.	Dog owners	Louisville Metro Parks, Louisville Dog Run Association	Institutional, community
BE 1.8 - Develop a project review checklist for state roadway construction and reconstruction projects to ensure compliance with the KYTC Pedestrian and Bicycle Travel Policy and to evaluate roadway designs.	Kentucky tourist, Kentucky residents	Partnership for A Fit Kentucky	Institutional, community
BE 1.9 - Increase the number of safe and accessible bicycle and pedestrian facilities in KY	Transportation Planners	Partnership for A Fit Kentucky	Institutional, community
BE 1.10 - Identify community assessment tools to determine if existing trails, bikeways and sidewalks are safe and accessible for children and persons with limited mobility	Coordinated School Health Committees, Transportation advocates	Partnership for A Fit Kentucky	Institutional, community

BE 1.11 - Advocate for increased transportation-related funding for bicycle and pedestrian facilities.	Transportation Planners	Partnership for A Fit Kentucky	Institutional, community
BE 1.12 - Increase funding levels for active friendly environments and ensure KY communities are aware of funding sources	Community planners, Kentucky residents	Partnership for A Fit Kentucky	Institutional, community

Built Environment Strategies	Target Group	Lead Agency	Ecological Level
BE 1.14- Assess on a biennial basis the number of counties that have made a policy or environmental change that improves access to pedestrian friendly and or community-friendly areas for physical activity and the number of Safe Routes to School programs.	Community planners, ACE advocates	Partnership for A Fit Kentucky	Institutional, community
BE 1.15 - Work with KDE on school citing and bussing policies to encourage more bicycling and walking to school.	School Administration, Coordinated School Health Committees	Partnership for A Fit Kentucky	Institutional, community
BE 1.16 - Develop model AFE ordinances for development regulations and building codes.	Community planners, Kentucky residents	Partnership for A Fit Kentucky	Institutional, community

The strategies for the Communities and the Built Environment are designed to encourage Kentuckians to change their environments so that making healthier decisions about nutrition and physical activity will be easier. Providing an environment within the community that encourages breastfeeding, increasing fruit and vegetable consumption and increasing physical activity is important for a healthier community.



Chapter 5: Surveillance and Evaluation

Establishing strong baseline data and maintaining regular surveillance for the objectives related to each venue will be accomplished through existing mechanisms wherever possible. In some cases new surveillance tools will need to be developed, or special surveys or data collections will need to be repeated from past program efforts. Another strategy includes expanding existing surveillance and evaluation tools used in other programs. For example, the tobacco program monitors policies in Kentucky manufacturing facilities and schools. The physical activity and nutrition programs have taken advantage of this existing survey and added items to monitor policies related to those programs. This is a cost effective way to increase surveillance without adding to the burden of those we ask to respond to such surveys.

Youth and Schools

Three existing surveys developed and coordinated by CDC are key in this process. The Kentucky Department of Education Coordinated School Health Program, in conjunction with the Kentucky Department of Public Health-Chronic Disease Prevention and Control Branch, oversee administration of these surveys on a regular basis. Staff at the University of Kentucky Center for Prevention Research has coordinated actual survey administration in recent years. KDE and KDPH staff work together to add additional questions or expand the sampling frame on these surveys to meet the evaluation needs of our programs.

YRBSS

Youth Risk Behavior Surveillance System monitors six categories of priority health-risk behaviors among youth and young adults; these behaviors contribute to physical inactivity and other serious health risks.

Profiles

School Health Profiles monitor characteristics of health education in middle or junior high schools and senior high schools in the United States. The Profiles are school-based surveys conducted by state and local education agencies.

SHPPS

School Health Policies and Programs Study is a national survey periodically conducted to assess school health policies and programs at the state, district, school, and classroom levels.

Gaps and Barriers in Youth Surveillance

The surveys described above provide adequate data to track most objectives in this section. However important gaps and barriers do exist which must be addressed in the immediate future to ensure that Kentucky is able to track progress toward meeting the objectives set in this plan.

1. Need for data on elementary school population
2. Over surveying of schools, especially middle and high schools resulting in low agreement rates for survey participation.
3. Sample sizes adequate only for state level analysis – need for more regionally specific data.
4. Need for accurate Height and Weight data to calculate BMI – self reported data from the YRBS is likely to be inaccurate, yet remains our only source of youth BMI data.

Obtaining BMI data for elementary school population

One option for collecting BMI data on younger children is to conduct record "audits" of their required physical exams prior to entering Kindergarten and again at entry to 6th grade. The results of these

exams become part of the child's school record and include additional documentation such as completion of required immunizations and the presence of illnesses that might require special management at school.

This is a strategy that has been used by some local and district health departments in Kentucky.
There are however, limitations to this approach.

1. There is great variety in the completeness of the records.
2. The approach is labor intensive.
3. Many local health departments lack the technical expertise to create and electronic data set from the collected records and to analyze the data accurately.
4. While this approach could be used on a statewide basis with adequate resources, it is primarily used at the local level.

The greatest barrier is the first one mentioned - the variety in completeness of records. This could be overcome via improved training or communication to physicians carrying out these exams. Such training could be connected to planned training to improve counseling and referrals provided by pediatricians and family physicians that most frequently complete these required school physicals.

Below is an example of the data that can be produced using this approach. This data was collected by Lexington - Fayette County Health Department staff during the 2002-2003 school year. Data like this are extremely useful in documenting the extent of the problem of childhood overweight and obesity and in tracking trends over time.

BMI - for Kindergarten Students in Fayette County Public Schools from Health Entrance Records / 2002-2003
County-level summary [N=1620 Students].

Overall

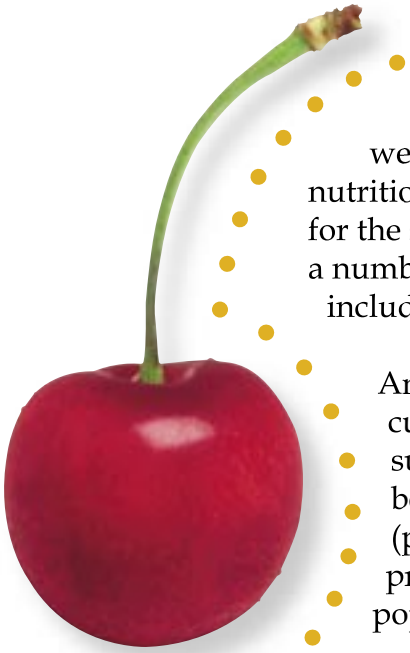
	Percent (%)
Overweight	11.6
Risk of overweight	13.6
Normal	70.9
Underweight	3.8

Gender

% N	Overweight	Risk of Overweight	Total overweight and Risk of overweight
Male	11.7%	13.6%	25.3%
Female	11.5%	13.8%	25.3%

Worksites

In 2000, the Kentucky Department for Public Health, Cardiovascular Health Program, conducted a survey of Kentucky worksites to determine the degree of support for employee health promotion. In Kentucky, 81% of worksites reported that they had offered at least one health promotion activity in the previous year. Thirty-nine percent of the worksites surveyed had some type of employee wellness or health promotion program. This survey provides good baseline data on existing employee wellness programs in Kentucky.



In order to monitor progress toward establishing worksite wellness programs and activities regarding physical activity and nutrition, this survey should be repeated on a regular interval. Funding for the survey will need to be identified, possibly pooling monies from a number of chronic disease prevention and control programs which include worksites as a target population.

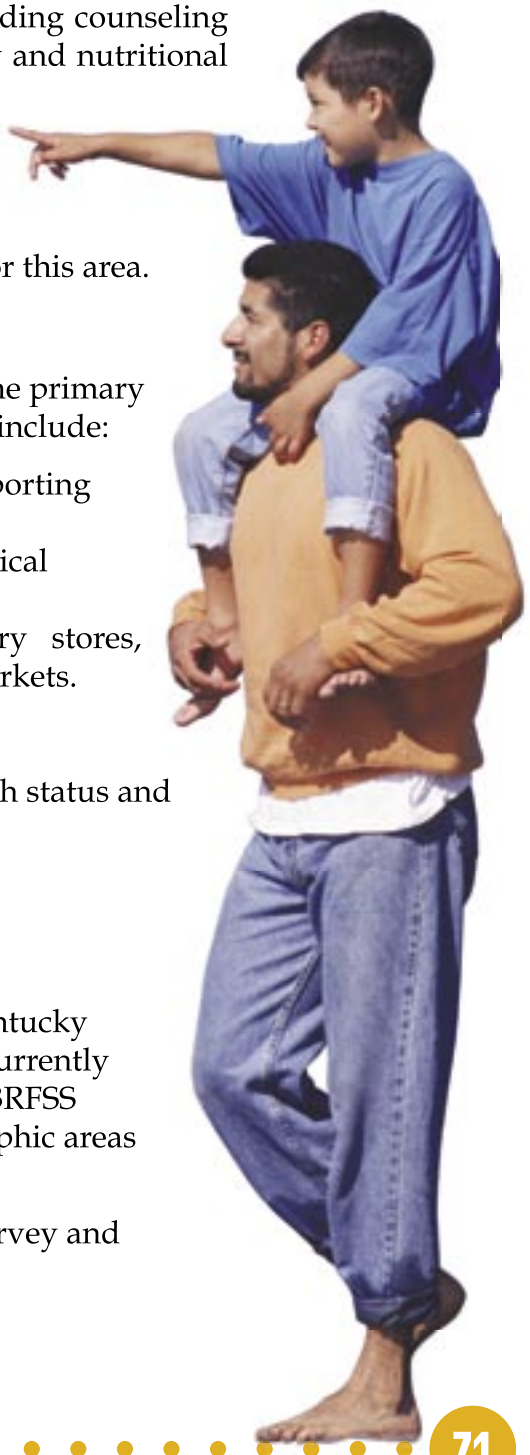
Another surveillance tool is the manufacturing policy survey currently coordinated by the tobacco prevention program. This survey is more limited in scope than the Kentucky Worksite Survey both in terms of the sample (manufacturing sites) and the topics (policy specific) however, it is done every 2 years and therefore provides a good tool for regular surveillance of an important population.

Health Care Settings

Data on health care provision is difficult to obtain. For this measuring progress toward the objectives in this plan, the primary interest is on 3 points:

- The **training** of health care professionals (from doctors to nurses to nutritionists) on the topics of healthy eating and physical activity.
- The **continuing education** of healthcare professionals on the topics of healthy eating and physical activity as well as techniques for counseling patients on needed behavior changes.
- The **behavior** of health care professionals in providing counseling and referrals to patients regarding physical activity and nutritional choices.

A process for monitoring these items will be developed with partners involved in those activities. The University or Kentucky Prevention Research Center will also be a key partner in establishing surveillance and evaluation tools for this area.



Communities

Data on community initiatives is also difficult to obtain. The primary indicators that require monitoring at the community level include:

- Existence of policies at the state and local level supporting Physically Active Environments
- Existence of easily accessible opportunities for physical activity for all ages.
- Accessibility of healthy food choices in grocery stores, restaurants community gardens and/or farmers markets.

Adult Behavior and Health Status

Many of the long-term objectives are specific to adult health status and behavior, specifically:

- BMI
- Fruit and Vegetable Consumption (5 a Day)
- Physical Activity Level

These indicators are most commonly measured via the Kentucky Behavioral Risk Factor Surveillance Survey (KYBRFSS). Currently Kentucky has one of the largest state sample sizes for the BRFSS which is designed to provide valid data on smaller geographic areas across the state.

Breastfeeding rates are monitored via the Ross Mothers survey and through WIC data.

Appendix A

Partnership for a Fit Kentucky

Mission Statement: Our mission is to foster healthy weight and fitness in order to prevent related chronic diseases among Kentuckians. We will develop and support policy and environmental changes that promote healthy eating and active lifestyles.

American Heart Association
Tonya Chang
Kim Telesford-Mapp
Julie Brackett

Ashland Area YMCA
Jodi Davis

Ashland-Boyd County Health Department
Sara Dunlap

Barren River District Health Department
Becky Bruce

Built Environment Institute
Neal Rosenblatt

Commonwealth Health Corporation
Doris Thomas

Cumberland River Mental Health Center
Brad Humphrey
Jill West

Department for Mental Health and Mental Retardation Services
Randy Oliver

Department of Human Support Services, Division of Women's Physical and Mental Health
Joyce Jennings

FIT Louisville
David Allen

Foundation for a Healthy Kentucky (FHKY)
Rita Moya

Green River District Health Department
Deborah Fillman

Health Care Excel
John Lewis

Health Science Center, University of Louisville
Rita Wedig

KC Wellness, INC.
Carol Donnelly

Kentucky Action for Healthy Kids Taskforce
Carolyn Dennis

Kentucky Area Health Education Center
Rebecca Stutsman

Kentucky Association of Area Agencies
Barbara Gordon

Kentucky Association of Counties
Fred Goins

Kentucky Association of Health, Physical Education, Recreation and Dance
Carol Ryan

Kentucky Council of Churches – Commission of Local Ecumenism
David Bondurant

Kentucky Department for Mental Health/Mental Retardation
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Kentucky Department for Public Health
Marvin Miller

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Kentucky Department of Agriculture
Amy Bird

Kentucky Department of Education, Coordinated School Health
Barbara Donica

Kentucky Diabetes Network
Greg Lawther

Kentucky Dietetic Association
Janet Tietyen

Kentucky Education Television
Judy Flavell

Kentucky Grocers Association
Pat Hicks

Kentucky Home Health Association
Mary Spalding

Kentucky Medical Association
Gregory Cooper

Kentucky Public Health Association
Dudley Conner

Kentucky Rails to Trails Council, Kentucky Chapter of the American Planning Association
Cindy Deitz

Kentucky Recreation and Parks Society
Don Stosberg

Kentucky Transportation Cabinet, Department of Highways
Paula Nye

KIPDA Area Agency on Aging
Sue Johnson

Lexington-Fayette County Health Department
Mary-Ann Myhre

Lexington-Fayette Urban County Government
Kenzie Nelson

Logan Aluminum
Teresa Lovely

Louisville Dog Run Association
Brian Davis

Marshall County Health Department and Kentucky Health Department Association
Larry Davis

Marshall County Health Department, Nutrition Services Branch
Dianna Colson

Northern Kentucky Independent District Health Department
Julie Sparks

Pennyrile Allied Community Services
MeMe Purdue

Pike County Health Department
Danita Bartley

Southeast Dairy Association/Kentucky Action for Healthy Kids
Kathy Belcher

Trover Foundation/Delta State Rural
Angie Courtney
Robert Brooks

UAW-Ford Health Initiative
Randa Deaton

University of Cincinnati, College of Nursing
Donna Gates

University of Kentucky, Center for Rural Health
Fran Feltner

University of Kentucky, Cooperative Extension
Jackie Walters
Cheryl Wyatt

University of Kentucky, Department of Physical Education
Aaron Beighle

University of Kentucky, Health Education through Extension Leadership (HEEL)
Holly Hopper
Lori Rice

University of Kentucky, Prevention Research Center
Cheri Tolle
Mark Dignan

Western Kentucky University
Marilyn Gardner
Cecilia Watkins

Appendix B

Kentucky Regional Forums Addressing Obesity Epidemic

August 2004

http://www.fitky.org

Regional Forums addressing the obesity epidemic were held across the state of Kentucky in Lexington, Hazard, Owensboro, Bowling Green, Louisville, Somerset, Ashland, Paducah and Union (Boone County) in August. Approximately 1,300 Kentucky citizens participated in these regional forums by providing input through small and large work group sessions addressing key interventions as outlined by the Centers for Disease Prevention and Control. The key interventions are: increased fruit and vegetable consumption, increased breastfeeding initiation and duration, increased physical activity, increased parental involvement, other dietary changes and decreased computer and television screen time. Two questions were asked for each key intervention: "What is your community doing now to address each key intervention?" and "What would you like to see your community doing to address each key intervention?". Each region developed and voted on the 5 top priorities. With duplications consolidated, the following are the 25 top priorities by venue worded in the manner voted on at the forums:

Schools

- Provide mandatory physical education for K-12/more organized recess **(*#1 in all 9 forums*)**
- Increase healthy choices in vending machines/Increase fruit and vegetables in vending machines/ Develop legislative policies for vending machines **(*priority at 7 of 9 forums*)**
- Promote choice of healthy foods in school
- Eliminate fast food in schools
- Have a RD/Nutritionist plan school meals
- Provide non-food rewards for kids in schools
- Provide full-time nurses in all schools to act as liaisons to parent
- Provide nutrition education in all schools K-12
- Include wellness component in ALL school improvement plans including making in-school and after-school intramural activities available to all students

Business

- "Worksite Wellness" - improve worksite policies to allow time to exercise, a place to exercise, health seminars and flexible time
- Provide employer incentives for exercise plan
- Provide public/ worksite breastfeeding rooms

Environmental

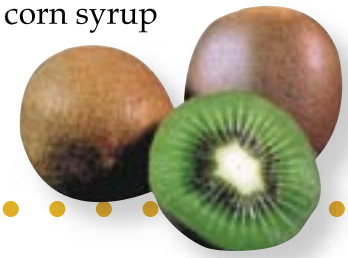
- Provide more, safe, walkable communities and bike paths
- Provide more accessible, low cost or free community/facilities for physical activity

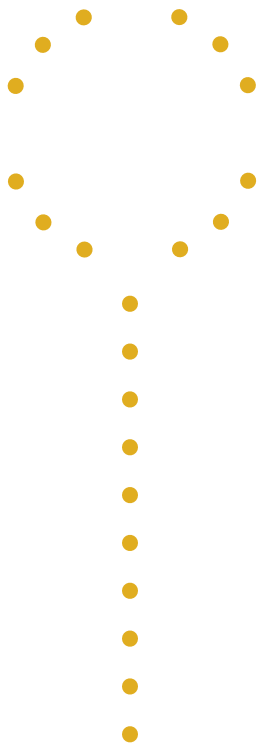
Healthcare

- Provide more staff for breastfeeding support/ trouble shooting

Family & Community

- Increase healthy choices in vending machines/Increase fruit and vegetables in vending machines/ Develop legislative policies for vending machines ***(priority at 7 of 9 forums)***
- Provide education for parents (focus on key locations): portion control, healthy, easy meal, low cost preparation and selection, and taking healthy food to school
- Develop better role modeling by parental involvement
- Provide court mandated parenting classes for parents receiving public assistance and those convicted of neglect
- Make healthy eating affordable for parents
- Lower the cost of fruit and vegetables
- Offer smaller portions/more fruit and vegetables at restaurants
- Mandate a certain percentage of food stamp cards to purchase fruit and vegetables/ Mandate nutrition education for food stamp and WIC participants.
- Educate on portion sizes, label reading, high fructose corn syrup
- Provide public/worksite breastfeeding rooms





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